ANNUAL REPORT

OF THE

Medical College of Bengal.

SEVENTEENTH YEAR: SESSION **1851-52.**

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UNDER THE IMMEDIATE CONTROL AND SUPERINTENDENCE OF THE COUNCIL OF EDUCATION.

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1852.

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SEVENTEENTH YEAR—SESSION 1851-1852.

Under the immediate Control and Superintendence of the Council of Education.

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SIR J. W. COLVILE, KNT.

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„ AUSHOTOSH DEB.
FRED. J. MOUAT, SECRETARY.

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D. STEWART, M.D.
H. WALKER, ESQ.
R. O'SHAUGHNESSY, ESQ., F.R.C.S.
H. FALCONER, M. D., F. R. S.
ALLAN WEBB, M.D.
ANDREW ROBERTSON, ESQ.
W. MARTIN, ESQ.
C. T. O. WOODFORD, M.D.
E. GOODEVE, M.B.

F. J. MOUAT, M.D., F.R.C.S., ... *Member, Secretary and Treasurer.*

Instructive Establishment.

English Department.

Professor of Anatomy and Physiology and Curator of the Museum, ...	H. WALKER, ESQ.
Professor of Descriptive and Surgical Anatomy, ...	ALLAN WEBB, ESQ.
Assistant Demonstrator of Anatomy,..	DWARKANATH BOSE, M.R.C.S.
Professor of Chemistry and Practical Pharmacy, ...	A. ROBERTSON, ESQ.
Professor of Botany, ...	DR. FALCONER.
Professor of Medicine, ...	DR. MOUAT.
Professor of Surgery,.....	R. O'SHAUGHNESSY, ESQ.
Professor of Midwifery, ...	DR. STEWART, (on sick leave.)
Officiating Professor of Midwifery, ..	DR. E. GOODEVE.
Professor of Materia Medica,.....	DR. E. GOODEVE.
Professor of Medical Jurisprudence,..	DR. WOODFORD.
Professor of Ophthalmic Medicine and Surgery, ...	W. MARTIN, ESQ.

Military Class.

Superintendent and Lecturer on Anatomy and Surgery, ... Pundit Madusuden Gupta.

Teacher of Materia Medica, ... Sub-Asst. Surgeon Sib Chunder Kurmokar.

Teacher of Medicine, ... Sub-Asst. Surgeon Prosunno Coomar Mitter.

MALE HOSPITAL.

Physician. ..... Dr. F. J. Mouat.
Assistant Physician, ... Dr. S. G. Chuckerbutty.
Surgeon, ... R O'Shaughnessy, Esq.
House Surgeon and Apothecary, ... Mr. G. Daly, G.M.C.B.

FEMALE AND LYING-IN HOSPITAL.

Physician, ... Dr. Stewart, (on sick leave.)
Officiating Physician, ... Dr. E. Goodeve.
Resident Surgeon, ... Sub-Asst. Surgeon Prosunno Coomar Mitter.
Goodeve Scholar, ... Umbika Churn Chatterjee.

OUT-DOOR DISPENSARY.

Superintendent, ... Mr. G. Daly.

The following is a list of the pupils of the English class at the close of the session:

Stipendiary Students, ...	49
Robertson Scholars, ...	3
Free Students, ...	60
Subordinate Medical Department, ...	16
Total,.....	128

Of the Natives, six are Moohummudans, and the remainder Hindus. Of the latter there are—

Brahmins, ...	20
Boidos, ...	7
Coistos, ...	35
Weavers, ...	6
Barbers,...	2
Bankers, ...	5
Teelee, ...	1
Sutgope, ...	1
Moduck, ...	1
Total,.....	78

In the Military class there are ninety-nine pupils upon the full monthly pay of 5 rupees, eighteen free students, ten pupils from Assam, and five from Arracan, making in all one hundred and thirty-two. Of these one hundred and two are Moohummudans, twenty-five are Hindus, and five Burmese. Of the Hindu students there are—

Brahmins, ...	3
Coistos, ...	8
Chuttries, ...	9
Aheeree, ...	2
Chumar, ...	2
Rowany, ...	1
Total,.....	25

Ninety-five of the pupils are natives of the North-Western Provinces and Assam, fourteen of Bengal, and five of Arracan.

The following tabular statement shows the attendance of the pupils of the English Class, during the session 1851-52.

CLASS.	Number of Lectures.	Number of Students attending.	Total present at all the Lectures during the Session.	Total absent during the Session.	Daily Average. Present.	Daily Average. Absent.	Remarks.
Anatomy and Physiology,..	144	68	8,864	908	61·69	6·30	As in former years.
Descriptive and Surgical Anatomy, ...	100	63	5,630	670	56·30	6·70	
Medicine, ...	104	39	3,946	110	37·94	1·6	
Surgery, ...	97	38	3,471	215	35·78	2·21	
Midwifery,...	71	38	2,421	277	34·9	3·90	
Chemistry, ...	80	86	6,007	873	75·8	10·91	
Botany, ...	63	81	4,054	1,049	64·34	16·65	
Materia Medica, ...	91	76	6,446	470	70·83	5·17	
Medical Jurisprudence, (Toxicology)	50	30	1,291	209	25·82	4·18	
Ophthalmic Medicine and Surgery, ...	27	43	1,001	160	37 8	5·92	

Changes in the Establishment.

Dr. Mouat returned from sick leave, and resumed charge of his duties in the College on the 16th of June last.

In January, Dr. Duncan Stewart applied for twelve months' leave on Medical Certificate, which was

granted to him by the Government. Dr. Edward Goodeve was appointed temporarily to conduct the duties of the chair of Midwifery.

Bengali Class.

In July last a proposal, drawn up by Dr. Jackson, regarding the establishment of a class of Bengali Native Doctors in connection with the Medical College, was submitted to the Council of Education for consideration. It appeared upon a reference to the records of the department that a scheme for effecting the same desirable object had been drawn up in 1843 by Dr. Mouat, in connection with the last Dewan Ram Comul Sen, a Hindu gentleman of the Physician caste who had always exhibited a great interest in the subject.

It was considered premature at that time, and laid aside in consequence.

The two plans, which agreed in their general features, and differed only in some points of detail, were considered together.

After discussion by the College Council and the Council of Education the following amended scheme was finally adopted, and sanctioned by the Government, *viz.*:

"A Bengali Class to be educated on the same plan, and to the same extent as the Hindustani Class, shall be established in the Medical College.

It shall consist in the first instance of 50 pupils, who shall each receive a monthly stipend of 5 rupees; and of as many free students as may be willing to study at their own expense.

The pupils shall be selected from all respectable castes, the preference in selection being given to those possessing the highest qualification. A due proportion of stipends will be reserved for Mofussil pupils.

All candidates shall be examined by a committee composed of the Principal and two Professors of the Sanscrit College, to ascertain that they possess a competent knowledge of the Bengali language and literature, so as to read and write it with fluency and facility.

They shall be taught the subjects of Anatomy, Materia Medica and the Chemistry connected with it, Medicine, and Surgery, in the Bengali language.

They shall remain at least two years in the Institution, shall practise dissection of the human body, and attend the hospitals and out-door dispensary in the same manner and for the same purpose as the pupils of the Hindustani class.

They shall not be required to live on the premises, but must attend daily from 10 A. M. until 4 P. M.

No student shall be admitted before the age of 18, or after that of 25 years.

Native Zemindars and the Governors of Charitable Institutions shall have the privilege of sending students to be educated in the

Bengali Class for subsequent employment by them. These students shall be supported by the persons recommending them.

All students shall pass such an examination for a diploma as shall be hereafter determined on, and such of them as shall be selected for the purpose shall be transferred to any appointment in Bengal which the government may select, to be placed under Deputy Magistrates, to be attached to Jail Hospitals, or to be employed as Vaccinators, &c."

To enable the Council to carry into effect this plan, which they believe to be capable of producing a large amount of public benefit, a reorganization of the instructive Establishment of the vernacular classes has been sanctioned. Pundit Madusuden Gupta has been appointed general superintendent and teacher of Anatomy to both classes. Babu Shib Chunder Kurmokar has been nominated teacher of Materia Medica, and Babu Prosunno Coomar Mitter teacher of Medicine to the two classes.

The Medical Board have been requested to select a teacher of Surgery from among the graduates of the Medical College who have most distinguished themselves as practical and operating surgeons.

The new class will be opened on the 15th of June next.

The following report from the College Council has been received :—

" The conduct of the students of the English and Hindustani Classes in the lecture rooms and hospitals has been satisfactory during the past session, no very serious breaches of discipline having occurred.

Conduct of Students.

The student apprentices have conducted themselves to the satisfaction of the immediate authority under which they are placed.

In the examinations of some of the classes unfair practices were detected, which rendered it necessary to punish the offenders. The offence has heretofore been so rare in this College that no special provision regarding it is contained in the rules of the institution. The Council are of opinion that future offenders should be expelled.

The special reports of the Professors express general satisfaction, with the attendance and attainments of the students. The Professor of Botany remarked, that but one of the third year native students entered into the competition for honors.

Special Reports of the Professors.

The Professor of Materia Medica regretted that a larger proportion of junior diploma candidates was rejected than in former years; but added that the Honor and Test Examinations had produced a fair share of good answers, some of them excellent.

The only special remarks recorded by the Professor of Ophthalmic Medicine and Surgery, was that his pupils had been somewhat irregular in attending the examinations of the class.

The Professor of Chemistry was unable to lecture for some weeks on account of severe sickness, but completed his course notwithstanding.

The Professor of Medical Jurisprudence noted that his class had been more regular than formerly in attending judicial post mortem examinations, of which 116 had been performed during the session.

The Professor of Medicine stated that the only novelty in the proceedings of his department had been the institution of the office of practising pupils, which he had found to work well as far as it had been adopted.

Examinations.

The diploma and general examinations of the Hindustani class and the junior diploma examination of the English class was conducted by the Professors of the College, each in his own department.

The detailed tabular statements of the results are contained in the appendix.

Junior diplomas were granted to the following students:—the rest were remanded for the periods and subjects mentioned in the statement above referred to.

1. Mohes Chunder Ghose.
2. Roma Churn Bose.
3. Soorjee Coormar Mookerjee.
4. Ashotosh Goopta.
5. A. Solomon.
6. Chunder Nath Bose.
7. Koylas Chunder Dutt.
8. M. M. Gasper.

Student Apprentices.

Eight of the student apprentices having completed the time of study and residence required by the orders of the Government, were examined for certificates of qualification. The examination was conducted by Professors Webb, Robertson, Goodeve, R. O'Shaughnessy, and Mouat, on the subjects of Anatomy, Chemistry, Materia Medica, Surgery, and Medicine. The examiners were aided by Surgeon McClelland and Assistant Surgeons Cantor and Macpherson as special assessors.

Certificates of qualification in the above-mentioned subjects were awarded to the following students, all of them having passed.

1. T. Briscoe.
2. F H. A. Leach.
3. C. L. Fox.
4. S. Porter.
5. J. Hart.
6. J. Greene.
7. W. Sinclair.
8. S. Grose.

Native Doctors.

The examination for the diploma of Native Doctors was conducted by the Professors of Anatomy and Physiology, Medicine, Surgery, and Materia Medica, each in his own department.

Forty-nine candidates presented themselves for examination, of whom thirty-four were found qualified for the public service, and fifteen were remanded to their studies.

The names of the former are—

1. Shaikh Hyait Buksh.
2. Shaikh Ali Moohummud.
3. Meer Ahmud Ali.
4. Meer Tej Ali.
5. Shaikh Nezabuth Ali.
6. Shaikh Goolam Moohummud.
7. Shaikh Kurrim Buksh.
8. Shaikh Azimoodeen.
9. Chirunjen Pautuck.
10. Bhughut Singh.
11. Doorgapersaud.
12. Shaikh Elahee Buksh, 1st.
13. Shaikh Korban Ali, 1st.
14. Rughonath Singh.
15. Balgobind Singh.
16. Shaikh Esmail.
17. Shaikh Bahadoor.
18. Shaikh Ruhim Buksh, 1st.
19. Shaikh Abdul Ghunee.
20. Shaikh Ramzan Ali, 1st.
21. Shaikh Wahud Ali.
22. Shaikh Elahee Buksh, 2nd.
23. Yusuff Khan.
24. Ullah Yar Khan.
25. Shaikh Hossain Buksh, 1st.
26. Amanuth Khan.
27. Greedharee Lall.
28. Shaikh Chadee.
29. Moohummud Shuffee.
30. Shaikh Kasim Ali, 2nd.
31. Rusool Buksh Khan.
32. Khyrath Ali Khan.
33. Shaikh Korban Ali, 2nd.
34. Mirza Jafur Ali.

Senior Diploma Examination.

The diploma examination of the English class was again conducted by Senior Surgeon J. Forsyth, assisted by the following Officers as Assessors :

Senior Surgeon J. Grant, .. Apothecary General.
Surgeon G. Craigie, M. D.,.. Presidency Surgeon.
„ H. Chapman, ... Presidency Surgeon.
„ J. McClelland, M. D., { Examiner of Emigrants proceeding to the Mauritius.
„ J. Jackson, M. B., .. { Surgeon to the Native Hospital and Presidency Surgeon.

Assistant Surgeon F. P. Strong, Surgeon 24-Pergunnahs.

The following are the names of students who presented themselves for final examination, and to whom diplomas were granted :

1. G. Daly.
2. Chunder Coomar Dey.
3. Abdool Hamid, 1st.
4. Abdool Hamid, 2nd.
5. Brindabun Chunder Chatterjee
6. Gopaul Chunder Pautuck.
7. Umbika Churn Chatterjee.
8. Brijonath Bundhoo.
9. W. E. Hannah.
10. A. J. Meyer.
11. D. O'Brien.
12. M. M. Gasper.
13. Ameenoodeen.

The examiner reported that :

" It will be seen that the whole number (12) of the season have been pronounced qualified in all the branches on which they were examined, in the presence of the assessors and myself, a fact that in itself argues much for the efficiency of the Institution, and for the diligence of the pupils, and leaves indeed little room for remark on our part.

"To say that there was not the inequality in acquirements, to a certain extent, that is usually observed on such occasions, would be incorrect, and would also be unjust to those of the candidates, especially Mr. Daly and Baboo Chunder Coomar Dey who distinguished themselves highly in every subject embraced by the examinations; but it appeared to us that the average of quickness and intelligence, as well as of facility in writing and speaking the English language, ranged higher than in most of the trials of former years at which it was our duty to attend.

"On the important practical subjects of Medicine and Surgery, as shown both in the written theses and oral examinations, the candidates generally afforded very gratifying evidence of careful tuition and assiduous study, while the ease and dexterity displayed in the dissecting room bore satisfactory witness to the industry with which they had availed themselves of the opportunities, in this regard, enjoyed to a fuller extent by the students of this Medical School than by those, perhaps, of any other in the world.

"On the branch of midwifery, the trials were on the whole not so satisfactory. It appeared to us that some of the candidates, though they had read up to the occasion, had not had opportunities of familiarizing themselves with the details of bed-side practice so indispensable in this branch of the profession. This may be owing in some measure to the limited means as yet afforded by the lying-in wards attached to the institution, though judging from the statements of some of the candidates themselves, there appears to have been irregularity in warning them to attend when cases of labor were in progress, and we would recommend that such amendment may be made in this particular, as on inquiry may appear to be advisable.

"I have only to add that the candidate Amin-u-din, who failed last year, has also been pronounced qualified on this occasion."

The Gold Medal for general proficiency was awarded to George Daly.

Medical College Hospital.

The large hospital referred to in former reports is now nearly completed, and is expected to be ready for the reception of patients in a few months. A detailed account of the Institution, with its cost and other circumstances considered of sufficient interest to be placed on record, will be contained in the next report of the Medical College.

Buildings.

The present buildings are in good repair, but are no longer sufficient for the increasing wants of the institution. A communication has been addressed to the Government upon the subject of the additions required, particularly in regard to the extension of the Museum and of the anatomical department generally.

APPENDIXES.

Appendix A. No. I.

Annual Return of Diseases treated in the Medical College Male and Female Hospitals from the 1st January to 31st December 1851.

Number.	DISEASES.	Remaining.	Admitted.	Total.	Discharged cured.	Died.	Remaining.	Remarks.
1	Zymotic Diseases, ...	28	1025	1053	906	115	32	
	Sporadic Diseases.							
2	Of uncertain and variable Seat, ...	4	154	158	151	5	2	
3	Of the Nervous System,...	2	106	108	82	24	2	
4	Of the Respiratory Organs, ...	7	82	89	70	12	7	
5	Of the Organs of Circulation, ...	1	7	8	4	4	0	
6	Of the Digestive Organs, ...	4	105	109	84	20	5	
7	Of the Urinary Organs,...	1	21	22	21	1	0	
8	Of the Organs of Generation, ...	18	70	88	71	5	12	
9	Of the Organs of Locomotion, ...	8	130	138	128	1	9	
10	Of the Integumentary System, ...	7	186	193	180	4	9	
11	External Causes, Poisoning, Asphyxia, Injuries, &c., ...	15	300	315	283	18	14	
	1.							
1	Variola, ...	0	0	0	0	0	0	
2	Varicella,...	0	0	0	0	0	0	
3	Measles	0	0	0	0	0	0	

Number.	DISEASES.	Remaining.	Admitted.	Total.	Discharged cured.	Died.	Remaining.	Remarks.
4	Diarrhœa,...	0	41	41	37	2	2	
5	Dysentery, ...	10	227	237	178	47	12	
6	Cholera, ...	1	149	150	94	56	0	
7	Ague, ...	8	223	231	226	0	5	
8	Remittent Fever, ...	4	218	222	204	10	8	
9	Common Continued Fever, ...	2	52	54	54	0	0	
10	Erysipelas, ...	0	6	6	6	0	0	
11	Syphilis, ...	3	109	112	107	0	5	
	2.							
12	Inflammation, ...	1	26	27	27	0	0	
13	Hemorrhage, ...	0	8	8	8	0	0	Chiefly Hæmoptysis.
14	Dropsy, ...	1	20	21	17	3	1	Death from Bright's disease.
15	Abscess, ...	1	50	51	51	0	0	
16	Mortification, ...	0	4	4	3	1	0	
17	Purpura, ...	0	24	24	22	1	1	
18	Scrofula, ...	0	6	6	6	0	0	
19	Carcinoma, ...	0	2	2	2	0	0	
20	Tumours,...	1	14	15	15	0	0	
	3.							
21	Apoplexia, ...	0	5	5	0	5	0	
22	Paralysis,...	0	6	6	5	0	1	
23	Convulsions, ...	0	11	11	3	8	0	All cases of Tetanus Idiopathic 2, Deaths 2. Traumatic 9, Deaths 6.

24	Epilepsia,...	0	9	9	9	0	0	
25	Insanity, ...	0	3	3	3	0	0	
26	Delirium Tremens,...	2	72	74	62	11	1	
	4.							
27	Bronchitis, ...	4	50	54	47	0	7	
28	Pleurisy, ...	0	8	8	8	0	0	
29	Pneumonia, ...	0	4	4	3	1	0	
30	Asthma, ...	0	2	2	2	0	0	
31	Phthisis, ...	3	8	11	0	11	0	Native Portuguese Christians; Males 6, Females 2, Native Males 3.
	5.							
32	Aneurism,...	1	1	2	0	2	0	Of the Aorta.
33	Heart, &c., Diseases of	0	6	6	4	2	0	
	6.							
34	Enteritis, ...	0	9	9	7	2	0	
35	Peritonitis, ...	0	5	5	5	0	0	
36	Tabes Mesenterica,...	0	0	0	0	0	0	
37	Ascites, ...	1	12	13	8	4	1	
38	Hernia,.....	0	3	3	2	1	0	
39	Colic or Ileus, ...	0	15	15	15	0	0	
40	Hœmatemesis, ...	0	1	1	1	0	0	
41	Hepatitis, ...	1	25	26	19	6	1	
42	Jaundice,...	0	8	8	6	1	1	
43	Spleen, Diseases of	2	27	29	21	6	2	
	7.							
44	Diabetes, ...	0	1	1	1	0	0	
45	Stone,..	1	9	10	9	1	0	
46	Stricture,...	0	11	11	11	0	0	

Number.	DISEASES.	Remaining.	Admitted.	Total.	Discharged cured.	Died.	Remaining.	REMARKS.
	8.							
47	Child Birth,.....	18	60	78	61	5	12	
48	Uterus, &c., Diseases of	0	10	10	10	0	0	
	9.							
49	Rheumatism, ...	8	130	138	128	1	9	
	10.							
50	Carbuncle,..	0	30	30	28	2	0	
51	Ulcers, ...	7	130	137	126	2	9	
52	Fistula,.....	0	9	9	9	0	0	
53	Skin, &c., Diseases of.....	0	17	17	17	0	0	Chiefly Psora and Herpes.
	11.							
54	Causes not specified, ...	0	0	0	0	0	0	
55	Wounds and Accidents,...	10	208	218	200	9*	9	* *Deaths.*—Concussio Cerebri,... 1 „ Ambustio, ... 5 „ Vulnus, ... 3
56	Fractures,...	5	76	81	71	5	5	
57	Poisoning, ...	0	16	16	12	4	0	By Arsenic 7, Deaths, ... 3 „ Opium 4, Death, ... 1 „ Datura 5, Death, ... 0
	Total, ...	95	2186	2281	1980	209	92	

Medical College, 15*th March*, 1852.

FRED. J. MOUAT, M. D., *Secretary.*

Appendix A. No. II.

Table of Admissions and Deaths in the Medical College Hospital for the Year 1851.

MONTHS.	EUROPEANS.						REMARKS.	NATIVES.						REMARKS.
	Admitted.		Discharged.		Died.			Admitted.		Discharged.		Died.		
	Medical Cases.	Surgical Cases.	Medical Cases.	Surgical Cases.	Medical Cases.	Surgical Cases.		Medical Cases.	Surgical Cases.	Medical Cases.	Surgical Cases.	Medical Cases.	Surgical Cases.	
January, ...	54	35	48	25	9	0	*Of the Deaths among Europeans:*	56	33	48	35	6	2	*Of the Deaths among Natives:*
February, ...	62	33	53	28	4	0		52	34	46	33	7	0	
March, ...	64	31	50	28	7	1	30 were from 1 to 2 days in Hospital.	56	36	44	34	8	0	38 were from 1 to 2 days in Hospital.
April, ...	59	32	53	31	3	0		53	34	47	32	8	3	
May, ...	62	36	50	32	15	0	25 were from 2 to 7 days in Hospital.	54	33	45	26	7	2	32 were from 2 to 7 days in Hospital.
June, ...	60	34	52	27	12	0		53	35	53	33	12	0	
July, ...	63	32	54	32	7	0	20 were from 7 to 14 days in Hospital.	55	32	56	28	5	1	20 were from 7 to 14 days in Hospital.
August, ...	58	35	52	30	8	0		63	33	50	32	7	0	
September, .	56	33	50	33	11	0	17 were from 14 to 20 days in Hospital.	62	36	47	31	9	1	13 were from 14 to 20 days in Hospital.
October, ...	55	31	53	31	11	2		60	33	50	30	5	3	
November, ..	60	33	50	32	7	0	10 were from 20 to 40 days in Hospital.	56	30	48	34	12	1	4 were from 20 to 40 days in Hospital.
December, ..	57	35	45	31	5	0		54	33	46	32	8	0	
Total, ...	710	400	610	360	99	3		674	402	580	380	94	13	

Medical College, 15th March, 1852.

FRED. J. MOUAT, M. D., *Secretary.*

Appendix A. No. III.

Return of Surgical Operations performed by Professor R. O'Shaughnessy in the Medical College Hospital, from 1st January to 31st December, 1851.

NATURE OF OPERATIONS.	Number.	Result. Died.	Result. Cured.	Remarks.
Amputation of the Arm, ...	3	1*	2	* The fatal case occurred in a man who had received a severe bite from a horse, producing an extensive lacerated wound of the arm and compound comminuted fracture of the elbow joint. The patient died from irritative fever and sloughing stump.
Amputation of the Thigh, ...	2	1†	1	† Limb amputated for scrofulous disease of the knee joint. The patient died of hectic fever.
Amputation of the Leg, ...	2	0	2	
Amputation of the Hand, ...	1	0	1	
Amputation of the Foot, ...	1	0	1	
Deligation of the Brachial Artery for wound of the deep Palmar Arch, ...	1	0	1	
Lithotomy, ...	8	1‡	7	‡ The fatal case occurred in an old man with extensive disease of the kidney.
Lithotrity, ...	1	0	1	
Puncture of Abscess in the Prostrate,...	1	0	1	
Excision of Tumours, ...	5	0	5	
Excision of Cancerous Breast, ...	2	0	2	

Excision of Hypertrophied Labia, ...	2	0	2	
Operation for Strangulated Hernia,.....	1	1§	0	§ The patient was admitted to Hospital in a state of collapse, with an enormous scrotal hernia containing a large mass of omentum, and small intestine highly engorged and of a dark purple color; sank from exhaustion four hours after the operation.
Operation for Fistula Lachrymalis, ...	2	0	2	
Operation for Contract, ...	20	0	20	
Operation for Harelip, ...	1	0	1	
Operation for Fistula in Ano, ...	3	0	3	
Operation for Fistula in Perinæo, ...	4	0	4	
Operation for Hydrocele, ...	16	0	16	
Luxations of the Shoulder Joint reduced, ...	8	0	8	
Luxations of the Hip Joint reduced, ...	3	0	3	
Minor Operations, ...	120	0	120	
Fractures set up,.....	76	5	71	The deaths under this head were chiefly accidents on board ship and by falls from the top of houses, and were all more or less complicated with injuries of the brain and spinal column.
Total, ...	283	9	274	

FRED. J. MOUAT, M. D.,
Secretary.

Medical College, 15*th March*, 1852.

Appendix A. No. IV.

Annual Return of Diseases treated in the Out-Door Dispensary of the Medical College, from 1st January to 31st December, 1851.

Number.	DISEASES.	Remaining.	Admitted.	Total.	Discharged and cured.	Relieved.	Absconded.	Died.	Remaining.	Remarks.
1	Zymotic Diseases, ...	35	5126	5161	5121	0	0	0	40	
2	Of uncertain or Variable Seat, ...	15	1710	1725	1667	44	0	0	14	
3	Of the Nervous System, ...	2	50	52	37	15	0	0	0	
4	Of the Respiratory Organs, ...	3	392	395	368	17	7	0	3	
5	Of the Digestive Organs, ...	12	1290	1302	1099	151	39	0	13	
6	Of the Urinary Organs, ...	0	38	38	38	0	0	0	0	
7	Of the Organs of Generation, ...	0	162	162	162	0	0	0	0	
8	Of the Organs of Locomotion, ..	11	2087	2098	1649	434	0	0	15	
9	Of the Integumentary System, ...	17	2022	2039	1912	0	0	0	14	
10	External Causes, Poisoning Asphyxia, Injuries, &c., ...	6	1063	1069	1163	0	0	0	6	
	1.									
1	Diarrhœa,...	0	167	167	167	0	0	0	0	
2	Dysentery, ...	5	607	612	605	0	0	0	7	
3	Ague, ...	6	876	882	873	0	0	0	9	
4	Remittent Fever, ...	6	398	404	402	0	0	0	2	
5	Common Continued Fever, ...	7	1955	1962	1954	0	0	0	8	
6	Erysipelas, ...	0	36	36	36	0	0	0	0	
7	Syphilis, ...	11	1087	1098	1084	0	0	0	14	

	2.									
8	Inflammation, ...	5	397	402	400	0	0	0	2	Ophthalmia, Orchitis, Otitis, &c.
9	Dropsy, ...	5	600	605	597	0	0	0	8	Chiefly Hydrocele, Anasarca, &c.
10	Abscess, ...	0	508	508	504	0	0	0	4	
11	Mortification,...	0	39	39	39	0	0	0	0	
12	Scrofula, ...	0	44	44	0	44	0	0	0	Common Encysted Tumors, Hypertrophied Prepuce and Scrotum, Hemorrhoidal and Condylomatous Tumors, &c.
13	Tumors, ...	0	122	122	122	0	0	0	0	
	3.									
14	Paralysis, ...	2	27	29	17	12	0	0	0	
15	Epilepsy, ...	0	13	13	13	0	0	0	0	
16	Insanity, ...	0	10	10	7	3	0	0	0	
	4.									
17	Quinsey, ...	0	57	57	57	0	0	0	0	
18	Bronchitis, ...	3	217	220	217	0	0	0	3	
19	Pleurisy, ...	0	43	43	43	0	0	0	0	
20	Asthma, ...	0	31	31	31	0	0	0	0	
21	Lungs, &c., Diseases of	0	44	44	20	17	7	0	0	Hæmoptysis, Phthisis, &c.
	5.									
22	Teething, ...	0	140	140	140	0	0	0	0	
23	Worms, ...	0	54	54	54	0	0	0	0	
24	Ascites, ...	3	34	37	0	37	0	0	0	
25	Hernia, ...	0	14	14	0	14	0	0	0	Reducible.
26	Colica, ...	0	97	97	97	0	0	0	0	
27	Stomach, &c., Diseases of	4	350	354	346	0	0	0	8	Mostly all Dyspepsia.
28	Hepatitis,...	1	67	68	40	28	0	0	0	
29	Jaundice, ...	0	27	27	27	0	0	0	0	
30	Spleen Diseases,...	4	507	5115	395	72	39	0	5	
	6.									
31	Strictura, ...	0	38	38	38	0	0	0	0	Of the Urethra.

Number.	DISEASES.	Remaining.	Admitted.	Total.	Discharged and Cured.	Relieved.	Absconded.	Died.	Remaining.	Remarks.
	7.									
32	Uterus, ...	0	162	162	162	0	0	0	0	Amenorrhœa, Dysmenorrhœa, Leucorrhœa, Menorrhagia, &c.
	8.									
33	Rheumatism,...	11	1947	1958	1573	370	0	0	15	
34	Joints, &c., Diseases of	0	140	140	76	64	0	0	1	
	9.									
35	Carbuncle, ...	0	35	35	35	0	0	0	0	
36	Phlegmon, ...	0	158	158	158	0	0	0	0	
37	Ulcus,...	8	1246	1254	1246	0	0	0	8	
38	Fistula, ...	0	64	64	64	0	0	0	0	
39	Skin, Diseases, &c., of	9	519	528	409	113	0	0	6	Psora et Herpes, Lepra, &c.
	10.									
40	Causes not specified, ...	0	485	485	485	0	0	0	0	Neuralgia, Odontalgia, Paronychia, Dysecœa, &c.
41	Contusions, ...	2	259	261	269	0	0	0	2	
42	Wounds, ...	3	188	191	287	0	0	0	4	
43	Fractures, ...	1	40	41	41	0	0	0	0	
44	Dislocations and Subluxations,.....	0	47	47	47	0	0	0	0	
45	Burns and Scald, ...	0	44	44	44	0	0	0	0	
	Total, ...	101	13940	14041	13116	774	46	0	105	

Medical College, 15*th March*, 1852.

FRED. J. MOUAT, M. D., *Secretary*.

Appendix A. No. V.

Return of Minor Surgical operations performed at the Out-Door Dispensary of the Medical College during the Year 1851.

NATURE OF THE OPERATIONS.	Number.	Result.			Remarks.
		Died.	Unknown.	Cured.	
Amputation of finger and toes, ...	9	0	0	9	
Amputation of Hypertrophied prepuce, ...	4	0	0	4	
Encysted and other Tumors excised, ...	36	0	0	36	
Tapping for Abdominal Dropsy, ...	11	0	0	11	
Tapping for Hydrocele, ...	495	0	0	495	
Fistulæ laid open, ...	64	0	0	64	
Abscesses open, ...	508	0	0	508	
Teeth extracted, ...	297	0	0	297	
Operation for Phymosis, ...	72	0	0	72	
Operation for Paraphymosis, ...	48	0	0	48	
Operation for Onychia, ...	36	0	0	36	
Operation for Ranula, ...	4	0	0	4	
Luxation of the Shoulder Joint reduced, ...	12	0	0	12	
Luxation of the Wrist Joint, ...	2	0	0	2	
Luxation of the Thumb, ...	3	0	0	3	
Luxation of the Clavicle, ...	1	0	0	1	
Luxation of the Lower Jaw, ...	6	0	0	6	
Prolapsus Ani reduced, ...	8	0	0	8	
Venesection and Arteriotomy, ...	350	0	0	350	
Catheters passed for retention of Urine, ...	120	0	0	120	
Setons introduced, ...	10	0	0	10	
Foreign bodies extracted, ...	38	0	0	38	
Incarcerated Hernia reduced by Taxis, ...	14	0	0	14	
Fractures put up, ...	40	0	0	40	
Total, ...	2188	0	0	2188	

Fred. J. Mouat, M. D.,
Medical College, 15th March, 1852. *Secretary.*

Appendix A. No. VI.

Tabular Statement of the Number of Patients treated in the Out-Door Dispensary of the Medical College, during each month of the year 1851.

Number.	MONTHS.	1851.	Remarks.	
			Of the numbers mentioned in the preceding columns there attended in 1851	
			Once, ...	3893
			Twice, ...	2979
			Thrice, ...	2002
1	January, ...	1010	Four times, ...	1162
2	February, ...	819	Five times, ...	965
3	March, ...	1313	Six times, ...	842
4	April, ...	1226	Seven times, ...	648
5	May, ...	1257	Eight times, ...	519
6	June, ...	1122	Nine times, ...	397
7	July, ...	1409	Ten times, ...	305
8	August, ...	1303	Eleven times, ...	175
9	September, ...	1217	Twelve times, ...	74
10	October, ...	1182		
11	November, ...	1035		
12	December, ...	1056		
	Total, ...	13959	Total, ...	13959

Fred. J. Mouat, M. D.,

Medical College, 15*th March*, 1852. *Secretary.*

Appendix B. No. I.

Return of Sub-Assistant Surgeons educated at the Medical College for the Year 1851.

Fort William, Medical Board Office, 1st January, 1852.

Number.	NAMES.	Date of Rank.	Stations to which attached.	Conduct and Qualifications.	Remarks.
	Oma Churn Sett, - - -	13th Feb. 1839,	Charity Hospital, Burdwan,	Very good.	
	Sama Churn Dutt, - -	13th Feb. 1839,	Penitentiary, Deegah, -	Exceedingly good.	
	Issur Chunder Gangooly, -	1st Jan. 1840,	Alms House, Midnapore, -	Most satisfactory.	
	Ramnarain Doss, - - -	1st Jan. 1840,	Civil Station and Dispensary, Budaon, - -	Good and superior.	
5	Jaudub Chunder Sett, - -	1st Jan. 1840,	Govt. Dispensary, Bareilly,	Excellent.	
	Nobin Chunder Paul, - -	1st Jan. 1840,	Govt. Dispensary, Benares,	Good and attentive.	
	Mr. R. G. W. Heming, - -	1st Jan. 1840,	Civil Station, Calpee, - -	No report received.	
	Callachand Dey, - - -	14th Jan. 1841,	Govt. Dispensary, Bhowanipore, - - - -	Highly talented and very attentive.	
	Rajkristo Chatterjee, - -	10th Feb. 1841,	Govt. Dispensary, Simla, -	Good.	
10	Jaudub Chunder Dharra, -	10th Feb. 1841,	Govt. Dispensary, Moorshedabad, - - -	Good.	
	Chimun Loll, - - -	10th Feb. 1841,	Govt. Dispensary, Delhie, -	Satisfactory.	
	Nilmoney Dutt, - - -	24th March 1841,	In Medical Charge of Furreedpore, - - -	No report received.	
	Budden Chunder Chowdry, -	11th Feb. 1842,	Emambarah Dispensary, Hooghly, - - -	Excellent and attentive.	
	Mohes Chunder Nun, - -	11th Feb. 1842,	Govt. Dispensary, Muttra, -	Most satisfactory.	
15	Dinonauth Dhur, - - -	11th Feb. 1842,	Charity Hospital, Mulnauth,	No report received.	

Number.	NAMES.	Date of Rank.	Stations to which attached.	Conduct and Qualifications.	Remarks.
16	Sadu Churn Mullick, - -	11th Feb. 1842,	Govt. Dispensary, Futtehghur, - - - -	Very good.	
	Sama Churn Sircar, - -	11th Feb. 1842,	Pilgrim Hospital, Gyah, -	Unexceptionable.	
	Purmanund Set, - - -	11th Feb. 1842,	Sukeas' Lane Dispensary, Calcutta, - - -	No report received.	
	Mohes Chunder Dey, - -	11th Feb. 1842,	Unemployed, - - -	- - - - - - -	On sick leave at Calcutta.
20	Gopaul Kristo Goopt, - -	11th Feb. 1842,	Salt Agency, Tumlook, -	- - - - - - -	Joined on the 9th December, 1851.
	Mr. F. F. DeCruze, - -	28th Dec. 1842,	Civil Station, Agra, - -	Satisfactory.	
	Shama Churn Dey, - -	28th Dec. 1842,	Govt. Dispensary, Saharunpore, - - -	Good.	
	Chunder Seekur Holdar, -	28th Dec. 1842,	Civil Station Jhung, Punjaub, - - - -	Good.	
	Tara Chand Pyne, - -	28th Dec. 1842,	Govt. Dispensary, Moradabad, - - - -	Excellent.	
25	Gobind Chunder Doss, -	28th Dec. 1842,	Civil Station, Dumoh,- -	Good.	
	Purmessur Doss, . -	28th Dec. 1842,	Dispensary, Battala, Punjaub, - - - -	Good.	
	Syud Inayut Hossein, - -	28th Dec. 1842,	Residency Hospital, Lucknow, - - - -	- - - - - - - -	Resigned the service.
	Dhurmodoss Bose, - -	18th March 1844,	- - - - - - - - - -	- - - - - - - -	Resigned the service.
	Purmessur Shawa, - -	25th March 1844,	- - - - - - - - - -	- - - - - - -	Dismissed for refusing to proceed to the Civil Station of Sumbulpore.
30	Hurronath Mitter, - -	26th May 1845,	Govt. Dispensary, Dacca, -	Able and zealous.	

	Wazeer Khan, - - -	26th May 1845,	Govt. Dispensary, Agra, -	Satisfactory.
	Dwarkanath Chatterjee, -	26th May 1845,	City Dispensary, Bhaugulpore, - - - -	Very good.
	Taruck Chunder Lahory, -	26th May 1845,	Govt. Dispensary, Allyghur,	Unexceptionable.
	Tara Chaund Sen, - -	20th May 1846,	Civil Station, Thannesur, Punjaub, - - -	Good.
35	Obhoy Churn Newghee, -	20th May 1846,	Govt. Dispensary, Shajehanpore, - - -	Zealous, intelligent, excellently qualified.
	Doyal Chand Bysack, -	20th May 1846,	Dispensary, Ootterparah, -	No report received.
	Coonjeebeharee Chatterjee, -	20th May 1846,	Hindu College Dispensary,-	No report received.
	Monohur Mookerjee, - -	20th May 1846,	Govt. Dispensary, Cawnpore, - - - -	Very good.
	Tamez Khan, - - -	16th June 1847,	Government Dispensary, Lahore, - - -	Good.
40	Jaudub Chunder Ghose, -	16th June 1847,	Civil Station Pak Puttun, Punjaub, - - -	No report received.
	Omes Chunder Bose, - -	16th June 1847,	Dispensary, Goruckpore, -	Good.
	Ram Soonder Ghose, - -	16th June 1847,	Civil Station, Dehra Gazee Khan, Punjaub, -	No report received.
	Tara Chand Banerjee, -	16th June 1847,	Govt. Dispensary, Allahabad, - - -	Good.
	Buddinauth Bromo, - -	16th June 1847,	Govt. Dispensary, Chittagong, - - - -	Unexceptionable.
45	Kalleenath Moozumdar, -	16th June 1847,	Govt. Dispensary, Ghazeepore, - - - -	Excellent.
	Mr. F. J. Pittingal, - -	25th May 1848,	Joudpore Agency, - -	No report received.
	Neelmadub Mookerjee, -	25th May 1848,	Civil Station, Shapore, Punjaub, - - -	No report received.
	Gobind Chunder Dutt, -	25th May 1848,	Govt. Dispensary, Pooree, -	Good.
	Mr. D. Picachy. - -	25th May 1848,	Dispensary, Purneah, -	Very Good.
50	Mr. W. J. Ellis, - -	12th April 1849,	In Medical charge, Pubna, -	No report received.
	Nobogopaul Ghosal, - -	12th April 1849,	Rajah's Dispensary, Nagpore, - - - -	No report received.

Number.	NAMES.	Date of Rank.	Stations to which attached.	Conduct and Qualifications.	Remarks.
52	Kallydoss Nundy, - -	12th April 1849,	Govt. Dispensary, Mirzapore,	Excellent.	
	Mr. A. Thomas, - - -	12th April 1849,	In Medical charge of Ramree,	No report received.	
	Fukeer Chunder Bose, - -	12th April 1849,	Sautgurreah Dispensary, -	No report received.	
55	Mr. James Kearney, - -	11th April 1850,	In Medical charge, Kyook Phyoo, - - -	No report received.	
	Bukshee Ram, - - -	11th April 1850,	Dispensary, Umritsur, -	No report received.	
	Sreenath Mookerjee, (1st,) -	11th April 1850,	Civil Station, Paneeput, -	Good.	
	Bholanath Doss, - - -	11th April 1850,	Govt. Dispensary, Ajmere,	Highly satisfactory.	
	Sreenath Mookerjee, (2nd,) -	11th April 1850,	Govt. Dispensary, Almorah,	Diligent and attentive.	
60	Madhubloll Shome, - -	11th April 1850,	Govt. Dispensary, Sreenuggur, - - -	Satisfactory.	
	Mr. J. J. Durant, - -	11th April 1850,	In Medical charge, Civil Station, Chumparun, -	Very good.	
	Mr. C. Raddock, - - -	11th April 1850,	Civil Station, Sirsa, - -	No report received.	
	Moohummud Jaun, - -	12th May 1851,	Lahore, - - - -	No report received.	
	Mr. J. Hinder, - - -	12th May 1851,	Dispensary, Govindsur, -	Good.	
65	Dinnonath Doss, - - -	12th May 1851,	Dispensary, Jehanabad, -	No report received.	
	Omes Chunder Mitter, - -	12th May 1851,	Charity Hospital, Burrisaul,	Both very good.	
	Konoyloll Sein, - - -	12th May 1851,	Dispensary, Tirhoot, - -	Very good.	
	Grish Chunder Paulit, - -	12th May 1851,	Civil Station, Cheyabassa, -	Very good.	
	Mr. David Renton, - -	5th July 1851,	First Sikh Local Infantry, Bharrookote, - -	Unexceptionable.	
70	Bissoonauth Goopto, - -	5th July 1851,	Govt. Dispensary, Jubbulpore, - - - -	- - - - - - - -	Has declined to proceed to join.

J. Forsyth, *Senior Surgeon,*

Secretary, Medical Board.

Appendix B. No. II.

Return of Native Doctors educated at the Secondary Class of the Medical College for the Year 1851.

Fort William, Medical Board Office, 1st January, 1852.

Number.	NAMES.	Date of Rank.	Corps and Stations to which attached.	Character and Qualifications.	Remarks.
	Moohummud Hossain, -	3rd Nov. 1841,	8th Irregular Cavalry, Hansie,	Good.	
	Moohummud Cossim Allie, -	3rd Nov. 1841,	8th Irregular Cavalry, Sultanpore, - - -	No report received.	
	Fuzoollah Khan, - -	3rd Nov. 1841,	Sub-Divisional Station, Barh,	Good and qualified.	
	Alli Bux, (2nd,) - -	3rd Nov. 1841,	2nd Regt. Light Cavalry, Umballa, - - -	Good.	
5	Bux Khan. - - -	3rd Nov. 1841,	72nd Regt. N. I., Bareilly, -	Satisfactory.	
	Chunder Deen Sukul, -	3rd Nov. 1841,	Garrison of Agra, - -	Every way good.	
	Alli Bux, (1st,) - -	3rd Nov. 1841,	Civil Station, Buddruck, -	No report received.	
	Mozuffer Hossain, - -	3rd Nov. 1841,	9th Light Cavalry, Muttra,	Good and satisfactory.	
	Jelall Ooddeen, - -	3rd Nov. 1841,	24th Regt. N. I., Goruckpore, - - - -	Good and very efficient.	
10	Shaikh Mungloo, - -	3rd Nov. 1841,	5th Regt. N. I., Lahore, -	Satisfactory.	
	Odhin Sing, - - -	20th June 1842,	4th Light Cavalry, Sealkote,	Good.	
	Kundy Sing, - - -	20th June 1842,	Mofussil Station, Mungle Dye,	Good.	
	Summon Khan, - -	20th June 1842,	1st Regt. Irregular Cavalry, Lahore, - - -	Good and tolerable.	
	Hingun, (2nd,) - - -	20th June 1842,	8th Irregular Cavalry, Sultanpore, - - -	Good.	
15	Meer Causseem Ally, -	20th June 1842,	28th Regt. N. I., Peshawur,	Good.	
	Colly Persaud, - -	20th June 1842,	31st Regt. N. I., Jullundur,	Good.	

Number.	NAMES.	Date of Rank.	Corps and Stations to which attached.	Character and Qualifications.	Remarks.
17	Golam Rajah, - -	20th June 1842,	52nd Regt. N. I., Ferozepore,	Excellent.	
	Meer Golam Shaw, - -	20th June 1842,	Political Agency, Jeypore,	Good.	
	Ghassy Khan, - - -	20th June 1842,	Jail Hospital, Saugor, -	Good.	
20	Meerza Baker Hossain, -	20th June 1842,	2nd Regt. Light Cavalry, Umballa, - - -	Good.	
	Oaheed Allee, - - -	20th June 1842,	37th Regt. N. I., Jhelum, -	Excellent.	
	Abdool Wahid, - -	20th June 1842,	5th Regt. N. I., Lahore, -	Very satisfactory.	
	Shaikh Elahee Bux, - -	22nd Dec. 1842,	Sylhet Light Infantry Battalion, - - - -	Satisfactory.	
	Hedayet Oollah, - -	22nd Dec. 1842,	Unknown, - - -	No report received.	
25	Hingun, (1st,) - - -	22nd Dec. 1842,	Sylhet Light Infantry Battalion, - - - -	Satisfactory.	
	Shaikh Abdoollah, - -	22nd Dec. 1842,	Sub-Divisional Station, Nowadah, - - -	Good and qualified.	
	Seetul Sing, - - -	9th June 1843,	2nd Assam Light Infantry Battalion, Gowhatty,	Good.	
	Essory Lall, - - -	9th June 1843,	Jail Hospital, Nursingpore,	More zealous since last report.	
	Ghunsam Sing, - -	9th June 1843,	70th Regt. N. I., Umballa,	Good.	
30	Khandain Hossain, - -	9th June 1843,	Civil Station, Purneah, -	Good.	
	Bissesor Sing, - - -	9th June 1843,	Civil Station, Deoghur, -	No report received.	
	Sahebdad Khan, - -	9th June 1843,	56th Regt. N. I., Umballa, -	Good.	
	Mendhy Khan, - -	9th June 1843,	2nd Regt. Grenadiers N.I., Rawul Pindee, - -	Excellent.	
	Joomuck Loll, - -	8th Sept. 1843,	Sappers and Miners, Darjeeling, - - -	Guilty of gross conduct, and neglect of duty.	
35	Oozeer Khan, - - -	8th Sept. 1843,	Buhurie Dispensary, - -	No report received.	

	Bhowanee Sing, - -	8th Sept. 1843,	1st Regt. Sikh Light Infantry, Bhanookote, -	Satisfactory.	
	Hedayet Alli Khan, - -	14th June 1844,	Commissioner's Establishment, Gowahatty, -	- - - - - - - -	Died 10th May 1851.
	Ramdhone, - - -	14th June 1844,	64th Regt. N. I., Agra, -	Good and intelligent.	
	Meer Akbur Allee, - -	14th June 1844,	Ex-Ameers of Scinde, Hazareebaugh, - - -	No report received.	
40	Hossain Bux, - - -	14th June 1844,	Civil Station, Maunbhoom,	Good.	
	Mirza Hossain Bux, - -	14th June 1844,	58th Regt. N. I., Hoshearpore, - - - -	Good.	
	Meer Ryjub Alli, - -	14th June 1844,	Jail Hospital, Mymensing,	Attentive and satisfactory.	
	Meer Alli Bux, - -	14th June 1844,	15th Regt. N. I., - -	Fair, - - -	On duty in the Jail Hospital at Goozrat.
	Moshaeb Alli, - - -	14th June 1844,	3rd Regt. N. I., Jhelum, -	Satisfactory.	
45	Shaikh Yar Alli, - -	28th March 1845,	74th Regt. N. I., Dacca, -	Very good.	
	Luchmun Sing, (2nd,) -	28th March 1845,	8th Battalion Artillery, Cawnpore, - - -	Good and attentive.	
	Shaikh Mataboodeen, -	28th March 1845,	2nd Regt. Sikh Local Infantry, Kangra, - -	Good.	
	Shaikh Meah Jan, - -	28th March 1845,	4th Company 6th Battalion Artillery, Peshawur,	Indifferent.	
	Shaikh Emmam Ally, -	28th March 1845,	13th Regt. N. I., Delhie, -	Intelligent and attentive.	
50	Shaikh Ilahee Bux, (1st,) -	28th March 1845,	60th Regt. N. I., Banda, -	Very careless and inefficient.	
	Doorga Churn Lall, - -	28th March 1845,	13th Regt. Irregular Cavalry, Mokerian, - -	Satisfactory.	
	Shaikh Hossain Ally, -	28th March 1845,	Under Capt. Hill, Trigonometrical Survey, -	No report received.	
	Shaikh Khoda Buksh, -	28th March 1845,	12th Regt. N. I., Mooltan, -	Very good.	
	Punna Lall, - - -	28th March 1845,	Civil Station, Doorundah,	Equal to his duties, and more attentive than formerly.	

Number.	NAMES.	Date of Rank.	Corps and Stations to which attached.	Character and Qualifications.	Remarks.
55	Ullee Khan, - - -	28th March 1845,	Arracan Local Battalion, Akyab, - - -	Good.	
	Ramsahae Lall, - -	28th March 1845,	48th Regt. N. I., Cawnpore,	Very satisfactory.	
	Moohummud Khan, - -	28th March 1845,	Civil Station, Hazareebaugh,	Equal to his duties.	
	Warris Ally, - - -	23rd Jan. 1846,	6th Company Sappers and Miners, Dugshaie Road,-	- - - - - - - -	Joined from sick leave on the 28th December 1851.
	Usruf Ally Khan, - -	23rd Jan. 1846,	16th Irregular Cavalry, Rawul Pindee, - -	Good.	
60	Shaikh Abdoolla, - -	23rd Jan. 1846,	Hurriannah Light Infantry, Hansi, - - -	Good.	
	Meer Akbur Ally, - -	23rd Jan. 1846,	4th Seik Local Infantry, Umballa, - - -	Good.	
	Syud Moohummud Waheed Ushruff, - -	23rd Jan. 1846,	10th Company Sappers and Miners, Sealkote, -	- - - - - - - -	On leave.
	Wuzeer Khan, (1st,) -	23rd Jan. 1846,	6th Regiment Light Cavalry, Meerut, - - -	Good, well qualified.	
	Khosal Ram, - - -	23rd Jan. 1846,	Jail Hospital, Agra, - -	Satisfactory and good.	
65	Meer Bundah Ally, - -	23rd Jan. 1846,	Jail Hospital Futtehghur, -	Good.	
	Shaikh Lall Moohummud, -	23rd Jan. 1846,	G. T. Survey, Monghyr, -	Good.	
	Wuzeer Khan, (2nd,) - -	23rd Jan. 1846,	19th Regt. N. I. Boodi Pind,	Tolerable.	
	Shaikh Ruheem Buksh, -	23rd Jan. 1846,	46th Regt. N. I., Meerut, -	Good.	
	Choonee Lall, - - -	23rd Jan. 1846,	14th Regt. Irregular Cavy. Hoshearpore, - -	Good.	
70	Shaikh Souban Ally, -	23rd Jan. 1846,	2nd Oude Local Infantry, Sultanpore, - - -	Good.	
	Shaikh Nubbee Buksh, -	23rd Jan. 1846,	Dispensary, Simla, - -	Good.	
	Shaikh Emam Ally, - -	23rd Jan. 1846,	Jail and Civil Station, Humeerpore, - - -	Good.	

	Abdool Summud, - -	23rd Jan. 1846,	18th Regt. N. I., Ferozepore,	Good.	
	Hingun Khan, - - -	23rd Jan. 1846,	1st Regt. N. I., Jullundur, -	Good.	
75	Babu Ram, - - -	23rd Jan. 1846,	Governor General's Body Guard, - - - -	Good.	
	Luchmun Singh, - -	23rd Jan. 1846,	3rd Cavalry 7th Battalion Artillery, Bareilly, -	Very indifferent.	
	Shaikh Alli Bux, (1st,) -	23rd Jan. 1846,	Unknown, - - - -	No report received.	
	Fyzoollah Khan, - -	23rd Jan. 1846,	5th Punjaub Cavalry, Dera Ishmael, - - -	No report received.	
	Shaikh Faqueer Moohummud, - - - -	23rd Jan. 1846,	34th Regt. N. I., Wuzeerabad, - - - -	Good, useful and attentive.	
80	Wuzeer Alli Khan, (3rd,)	23rd Jan. 1846,	37th Regt. N. I. Jhelum, -	Excellent.	
	Meerza Nourez Beg, - -	23rd Jan. 1846,	72nd Regt. N. I. Bareilly, -	Satisfactory.	
	Meer Hyder Alli, - -	30th Jan. 1846.	65th Regt. N. I., Agra, -	Improving.	
	Shaikh Alli Moohummud, -	9th April 1847,	23rd Regt. N. I., Peshawur,	Good.	
	Sunt Persaud Sing, - -	9th April 1847,	36th Regt. N. I , Moradabad,	Good, well qualified.	
85	Samut Oollah, - - -	9th April 1847,	3rd Brigade Horse Artillery, Agra, - - -	Satisfactory.	
	Ushruff Alli Khan, - -	9th April 1847,	Station of Nynee Tal, -	Good, and well qualified.	
	Mirza Ramzan Alli, - -	9th April 1847,	7th Regt. N. I., Loodianah,	- - - - - - - -	On sick leave.
	Ameer Khan, - - -	9th April 1847,	15th Regt. N.I., Umballah,	- - - - - - - -	Joined on the 28th December 1851.
	Meer Enayut Alli - -	9th April 1847,	Civil Station, Patna, - -	Very good.	
90	Pursun Lall, - - -	9th April 1847,	Nusseeree Battalion, Jutog,	Perfectly satisfactory,	
	Shaikh Allie Buksh, -	9th April 1847,	- - - - - - - - - -	- - - - - - - -	Dismissed the service, G. O. 4th April 1851.
	Meer Enayut Hossein, -	9th April 1847,	7th Regt. N. I., Loodianah,	Excellent.	
	Shaikh Moohummud Hossein,	9th April 1847,	2nd Irregular Cavy., Camp near Dubb, - - -	Good.	
	Shaikh Kurreem Udin, -	9th April 1847,	2nd Regt. Seik Light Infy, Dhurmsala, - -	Good.	
95	Shaikh Mashoom, - -	9th April 1847,	16th Regt. N. I. Grenadiers, Benares, - - -	Very good.	

Number.	NAMES.	Date of Rank.	Corps and Stations to which attached.	Character and Qualifications.	Remarks.
96	Shaikh Kulleem Oollah, -	9th April 1847,	39th Regt. N. I., Mooltan, -	Good.	
	Shaikh Kurreem Buksh, -	9th April 1847,	1st Cavalry 7th Battalion Artillery and Grenadiers of Attock, - - -	- - - - - - - -	Died on the 11th December 1851.
	Shaikh Emam Alli, - -	9th April 1847,	Native Garrison Hospital, Chunar, - - -	Good.	
	Wuzeer Alli Khan, - -	9th April 1847,	Jail Hospital, Mundlaisir, -	Intelligent and active.	
100	Lalla Ramdyal, - -	9th April 1847,	40th Regt. N. I., Allahabad,	Good, and well qualified.	
	Shaikh Abdool Ajuz, -	9th April 1847,	Civil Station, Jessore, -	Good.	
	Shaikh Kurreem Bux, (2nd,)	14th April 1848,	67th Regt. N. I., Barrackpore, - - - -	Active, attentive and well qualified.	
	Mirza Moohummud Jaun, -	14th April 1848,	Station of Mussooree, -	Generally attentive, qualifications ordinary.	
	Meer Hedyut Alli, - -	14th April 1848,	47th Regt. N. I., Jhelum, -	Good.	
105	Shaikh Elahee Bux, (1st,) -	14th April 1848,	Regt. of Loodianah, Lucknow, - - - -	Very satisfactory.	
	Shaikh Kurreem Bux, (1st.)	14th April 1848,	9th Regt. N. I., Lahore, -	Good.	
	Shaikh Shair Ali, - -	14th April 1848,	65th Regt. N. I., Lahore, -	Both good.	
	Fyzoola Khan, - -	14th April 1848,	8th Regt, Light Cavy., Ferozepore, - - -	Good.	
	Emdad Hossein, - -	14th April 1848,	Harowtee Pol. Agency, -	No report received.	
110	Myboob Khan, - -	14th April 1848,	Scinde Camel Corps, Dhera Ishmael Khan, -	Very good.	
	Abdool Hossein, - -	14th April 1848,	Sappers and Miners, Darjeeling, - - -	- - - - - - - -	On leave from the 10th July 1851.
	Syud Abdool Onahud, -	14th April 1848,	61st Regt. N. I., Lucknow,	Excellent.	

	Shaikh Mungloo, - -	14th April 1848,	35th Regt. Lt. Infy., Lucknow, - - - -	Steady and fair.	
	Abdoola Khan, - -	14th April 1848,	Left Wing 55th Regt. N. I., Jhansee, - - -	Good.	
115	Saduck Ali Khan, - -	14th April 1848,	Shapoora, (Saugur,) -	Middling.	
	Moohummud Ufzar, - -	14th April 1848,	40th Regt. N. I., Allahabad,	Good and well qualified.	
	Shaikh Sahadut, - -	14th April 1848,	1st Troop 1st Bd. H. Arty., Peshawur, - - -	Good.	
	Bakur Khan, - - -	14th April 1848,	2nd Co. 7th Bn. Arty., Camp,	Good.	
	Jahur Ul Huq, - -	14th April 1848,	13th Regt. Irregr. Cavy., Mokerian, - - -	Satisfactory.	
120	Khoseal Ram, - - -	14th April 1848,	Nusseeree Bn., Jutog, -	Perfectly satisfactory.	
	Mirza Kudrut Ali, - -	14th April 1848,	Jail and Civil Station, Kangra, - - - - -	Good.	
	Ruhumuth Ali, - -	14th April 1848,	3rd Irregr. Cavy., Bareilly,	Bad, qualifications very indifferent.	
	Shaikh Abdul Onahub, -	14th April 1848,	Sudder Hospital, Akyab, -	Good.	
	Luthfoola Khan, - -	14th April 1848,	33rd Regt. N. I., Ghazeepore, - - - - -	- - - - - - - -	Died 23rd Feb. 1851.
125	Dyah Sing, - - -	7th April 1849,	Dett. 2nd Assam Lt. Infy. Bn., Gowalparah, -	Good.	
	Nujuf Allie, - - -	7th April 1849,	Bhopal Contingent, Sehore,	No report received.	
	Rome Khan, - - -	7th April 1849,	G. T. Survey, Monghyr, -	Inferior, - - - - -	Absconded from his duty 20th September 1851.
	Shaikh Ramzan Allie, (3rd,)	7th April 1849,	Civil Hospital, Kyook Phyoo, - - -	Good.	
	Nusseeb Khan, - -	7th April 1849,	38th Regt. N. I., Barrackpore, - - - - -	Very indifferent, and ordinary.	
130	Shaikh Jaun Allie, - -	7th April 1849,	48th Regt. N. I., Cawnpore,	Very satisfactory.	
	Sadoolla Khan, - -	7th April 1849,	Ramghur Irregr. Cavy., Sumbulpore, - - -	Good.	
	Ukbur Allie, - - -	7th April 1849,	Jail Hospital, Tezpore, -	Good.	

Number.	NAMES.	Date of Rank.	Corps and Stations to which attached.	Character and Qualifications.	Remarks.
133	Mungul Sing, - - -	7th April 1849,	Jail Hospital, Gowalparah,	Good and well qualified.	
	Shaikh Atta Hossein, -	7th April 1849,	16th Regt. N. I. Grs., at Benares, - - -	Very good.	
135	Meer Juffer Allie, - -	7th April 1849,	2nd Irregular Cavy. Camp, near Dubb, - - -	Good.	
	Shaikh Ramzan Allie, (1st,)	7th April 1849,	Govt. Deccan Road, Jubbulpore, - - -	Improving.	
	Shaikh Allie Oollah, -	7th April 1849,	Joudpore Legion, Erinpoora,	Good.	
	Shaikh Ramzan Allie, (2nd,)	7th April 1849,	41st Regt. N. I., Mooltan, -	Good.	
	Meer Keramuth Allie, -	7th April 1849,	Sappers and Miners, - -	No report received,	On duty in the Hills near Simla.
140	Dursun Loll, - - -	7th April 1849,	Civil Station, Kishnaghur, -	Very good.	
	Mirza Rajah Allie Beg, -	7th April 1849,	Civil Station, Shaikhpoora,-	Good.	
	Syud Unwar Allie, - -	7th April 1849,	Joudpoor Legion, Erinpoora,	Good, improving.	
	Shaikh Kurreem Bux, -	7th April 1849,	Regt. of Loodianah, Lucknow,	Very satisfactory.	
	Kadum Allie Khan, - -	7th April 1849,	30th Regt. N. I., Allyghur, -	No report received,	Proceeded with his Corps to Dinapore, 12th Dec. 1850.
145	Meer Ahmud Allie, - -	7th April 1849,	5th Co., 7th Bn. Artillery, Jhelum, - - -	Satisfactory.	
	Emdad Khan, - - -	7th April 1849,	Right Wg., 45th Regt. N. I., Bareilly, - - -	Conduct good, qualifications moderate.	
	Meer Zoolfigur Allie, - -	7th April 1849,	68th Regt. N. I., Cawnpore,	Good.	
	Syud Emam Allie, - -	7th April 1849,	Hurrianah Lt. Infy., Hansie,	Good.	
	Shaikh Rohim Bux, - -	7th April 1849,	11th Irregular Cavy., Hansie, - - - - -	Conduct good, but knows very little of his duties.	
150	Moohummud Hosein Khan,	7th April 1849,	Jail and Civil Station, Lahore,	No report received.	

	Bhikoo Sing, - - -	7th April 1849,	Rajpootana Agency, Ajmere,	Good.	
	Shaikh Alfooddin, - -	7th April 1849,	Jail and Civil Station Battalion, - - - -	Good.	
	Gowry Sunkur, - - -	7th April 1849,	Jail and Civil Station, Jullunder, - - - -	Good.	
	Bhowanideen Tewary, -	31st Oct. 1849,	Corps of Guides Camp, Eusefzei, - - - -	Good.	
155	Madary Sing, - - -	31st Oct. 1849,	28th Regt. N. I., Peshawur,	Creditable.	
	Ahmud Yar Khan, - -	31st Oct. 1849,	4th Punjaub Infy., Camp Bahadurkhail, - -	Good.	
	Kadur Buksh Khan, - -	31st Oct. 1849,	1st Ditto Cavy., Kohat, -	Good.	
	Mirza Hingun, - - -	31st Oct. 1849,	Civil and Jail, Rawul Pindee, - - - - -	Had previously borne a good character, -	Absent without leave since 7th Dec. 1851.
	Shaikh Usgur Alli, - -	31st Oct. 1849,	2nd Punjaub Cavy., Bunnoo,	Satisfactory.	
160	Shaikh Nubec Buksh,- -	31st Oct. 1849,	Shere Dil Regt., Umritsur, -	Good.	
	Choonee Lal, - - -	31st Oct. 1849,	3rd Regt. N. I., Jhelum, -	Satisfactory.	
	Meer Dedar Buksh, - -	31st Oct. 1849,	Civil Station, Bunnoo, -	Very good.	
	Shaik Moohummud Buksh,	31st Oct. 1849,	Civil, Huzara, - - -	Good.	
	Shaikh Kymoodeen, - -	31st Oct. 1849,	4th Punjaub Cavy., Dera Ghazee Khan, - -	Good, very attentive.	
165	Meer Hyder Alli, - - -	31st Oct. 1849,	Civil Station, Jhung, -	Good.	
	Shaikh Abdool Wahub, -	31st Oct. 1849,	Jail and Civil Station, Umritsur, - - -	Very good.	
	Prem Chand, - - -	31st Oct. 1849,	5th Pubjaub Cavy., Dera Ishmael Khan, - -	No report received.	
	Sewra Khan Dobay, - -	31st Oct. 1849,	2nd Punjaub Infy., Bunnoo,	Very good,.	
	Shaikh Fukroodeen, - -	31st Oct. 1849,	Civil, Dera Ishmael Khan, -	No report received.	
170	Sobhan Khan, - - -	31st Oct. 1849,	Civil, Mooltan, - - -	Good.	
	Shaikh Fyzoollah, - -	31st Oct. 1849,	Civil, Leia, - - -	Satisfactory.	
	Shaikh Goolam Gouse, -	31st Oct. 1849,	1st Punjaub Infy., Kohat, -	Good.	
	Ameer Hossein, - -	31st Oct. 1849,	5th Punjaub Infy, Dera Ghazee Khan, - -	- - - - - - - -	Died 28th Dec. 1851.
	Shaikh Oozeer Alli, - -	31st Oct. 1849,	- - - - - -	- - - - - - - -	Died 17th April 1851.

Number.	NAMES.	Date of Rank.	Corps and Stations to which attached.	Character and Qualifications.	Remarks.
175	Shaikh Subratee, - -	10th April 1850,	9th Bn. Artillery, Dum-Dum, - - - -	Conduct satisfactory, and is moderately well qualified.	
	Shaikh Allee Bux, - -	10th April 1850,	Civil Station, Jessore, -	Good.	
	Shaikh Nooruddeen, - -	10th April 1850,	54th Regt. N. I., Barrackpore, - - - -	Good and attentive.	
	Shaikh Junglee, - -	10th April 1850,	Station Hospital, Barrackpore, - - - -	Not ascertained, -	Directed to do duty with the 30th Regt. N. I., D. O. 28th Dec. 1851.
	Shaikh Suffer Allie, - -	10th April 1850,	3rd Bd. Horse Arty., Lahore,	Good.	
180	Hormuth Khan, - -	10th April 1850,	57th Regt. N. I., Lahore, -	Good.	
	Nizamoodeen, - - -	10th April 1850,	Detch. 2nd Assam Lt. I. Bn. Nowgong, - -	No report received.	
	Gungapersaud, - - -	10th April 1850,	Military Hospital, Tezpore,	Sick.	
	Shaik Rujub Allie, - -	10th April 1850,	Jail Hospital, Debrooghur,	Well educated and attentive.	
	Ahmud Khan, (1st,) - -	10th April 1850,	Jail and Civil Station, Lahore,	Moderate.	
185	Sadoolla Khan, - - -	10th April 1850,	Under Orders of the Asst. Commsr. at Kussoor in Punjaub, - - -	No report received.	
	Ahmud Khan, (2nd) - -	10th April 1850,	3rd Co. 8th Bn. Artillery, Umritsur, - - -	Very good.	
	Nowab Khan. - - -	10th April 1850,	Scinde Camel Corps, Dera Ishmael Khan, - -	Very good.	
	Foyzeal Khan, - - -	4th April 1851,	44th Regt. N. I., Barrackpore, - - - -	Good.	
	Abdoolla Khan, 1st, - -	4th April 1851,	42nd Regt. N. I., Barrackpore, - - - -	Good and well qualified.	
190	Ghunsam Pautuck, - -	4th April 1851,	Civil Station, Maldah, -	Steady, good.	

	Tossodokhe Hossain, - -	4th April 1851,	Civil Station, Pooree, -	Good.	
	Abdool Rohman Khan, 1st.,	4th April 1851,	Civil Station, Bauleah, -	Very intelligent, and conduct good,	On leave for 6 months.
	Rajub Khan, - - -	4th April 1851,	Civil Station, Burdwan, -	Good.	
	Shaikh Afzul Hossain, -	4th April 1851,	Civil Station, Jessore, -	Well qualified and attentive.	
195	Shaikh Rohim Buksh, 1st., -	4th April 1851,	44th Regt. N. I., Barrackpore, - - - -	Good.	
	Elahee Buksh, - - -	4th April 1851,	Jail Hospital, Pubna, - -	Good.	
	Mootee Misser, - - -	4th April 1851,	Jail Hospital, Mymensing, -	Satisfactory.	
	Moohummud Zameer, -	4th April 1851,	Jail Hospital, Furreedpore,	Good.	
	Mootee Lall, - - -	4th April 1851,	Jail Hospital, Tipperah, -	Good and superior.	
200	Ameer Khan, 1st., - -	4th April 1851,	Comrs. Estbt., Chittagong, -	Good and ordinary.	
	Jussodanund, - - -	4th April 1851,	Jail Hospital, Gowahatty, -	- - - - - - - -	Died 31st May 1851.
	Shaikh Abdoollah, 1st., -	4th April 1851,	38th Regt. N.I., Barrackpore,	Ordinary.	
	Siddissur Sing, (Assamese,)	4th April 1851,	2nd Assam Lt. I. B., Gowahatty, - - -	Good.	
	Moohummud Osman, (Assamese,) - - - -	4th April 1851,	1st Assam Lt. I. B., Hd. Qrs., Debrooghur, -	Well educated and attentive,	
205	Kumtadeen. - - -	4th April 1851,	G. T. Survey, Monghyr, -	Good.	
	Kally Churn Paray, - -	4th April 1851,	Civil Station, Gyah, -	Very willing but very slow.	
	Mowlah Buksh, - - -	4th April 1851,	10th Irr. Cavy., Seegowlee,	Good.	
	Shaikh Ozeer Buksh, -	4th April 1851,	67th Regt. N. I., Barrackpore, - - - -	Diligent, well grounded and useful.	
	Brojobhookhun Pautuck, -	4th April 1851,	Civil Station, Sarun, -	Both very good,	
210	Meer Rohuth Alli, - -	4th April 1851.	26th Regt. Lt. I., Dinapore,	Conduct good, and qualifications ordinary.	
	Hubeeb Oollah. - - -	4th April 1851,	9th Lt. Cavalry, Muttra, -	Good and satisfactory.	
	Meer Haday Alli, 1st.,- -	4th April 1851,	Right Wing 6th Regt. N.I., Agra, - - - - -	Good.	
	Abdool Rohman Khan, 2nd.,	4th April 1851,	Joudpore Legion, Erinpoora,	Good.	

J. Forsyth, *Senior Surgeon, Secretary, Medical Board.*

Appendix C. No. I.

List of Student Apprentices for Final Examination in the Medical College, Session 1851-52.

Number.	NAMES.	Age.	Date of Admission.	No. of times absent since admission.	Clinical Clerk.	Dresser.	Remarks.
1	T. Briscoe, ...	24	1st July 1850,	7 days, ...	3 months,...	3 months,...	3 months Practising Pupil.
2	S. Grose, ...	19	1st July 1850,	13 days, ...	2 months,...	1 month.	
3	C. L. Fox, ...	20	1st July 1850,	6 days, ...	2 months,...	4 months,..	3 months Practising Pupil.
4	J. Greene, ...	18	1st July 1850,	None, ...	2 months,...	3 months.	
5	W. Sinclair, ...	18	1st July 1850,	6 days, ...	2 months,...	2 months.	
6	S. Porter, ...	19	1st July 1850,	8 days, ...	2 months,..	1 month.	
7	F. H. A. Leach, ...	20	1st July 1850,	None, ...	2 months,...	2 months,	Gained one certificate of honor.
8	J. Hart,...	19	August 1850,	3 days, ...	2 months,...	2 months.	

Fred. J. Mouat, M. D.,
Secretary.

Medical College, 8th March, 1852.

Appendix C. No. II.

Result of the Examination of the Student Apprentices in the Medical College, Session 1851-52.

Number.	NAMES.	Anatomy.	Chemistry.	Materia Medica.	Medicine.	Surgery.	Remarks.
1	T. Briscoe, ...	Qualified,	Qualified,	Qualified,	Qualified,	Qualified,	Qualified.
2	S. Grose, ...	,,	,,	,,	,,	,,	,,
3	C. L. Fox, ...	,,	,,	,,	,,	,,	,,
4	J. Greene, ...	,,	,,	,,	,,	,,	,,
5	W Sinclair, ...	,,	,,	,,	,,	,,	,,
6	S. Porter, ...	,,	,,	,,	,,	,,	,,
7	F. H. A. Leach, ...	,,	,,	,,	,,	,,	,,
8	J. Hart, ...	,,	,,	,,	,,	,,	,,

Fred. J. Mouat, M. D.,
Secretary.

Medical College, 26th March, 1852.

Appendix C. No. III.

Result of the Final Examination of the Students of the Medical College, Session 1851-52.

Number.	NAMES.	Written Examination.	Practical Surgery.	Medicine.	Surgery.	Midwifery.	Medical Jurisprudence.	REMARKS.
1	Abdool Hamid, 1st., ...	Qualified,	Qualified,	Qualified,	Qualified,	Qualified,	Qualified,	Qualified.
2	Abdool Hamid, 2nd., ...	,,	,,	,,	,,	,,	,,	,,
3	Brindabun Chunder Chatterjee,	,,	,,	,,	,,	,,	,,	,,
4	Gopal Chunder Pautuck, ...	,,	,,	,,	,,	,,	,,	,,
5	Umbika Churn Chatterjee,.....	,,	,,	,,	,,	,,	,,	,,
6	Chunder Coomar Dey, ...	,,	,,	,,	,,	,,	,,	,,
7	Brijonath Bundoo, ...	,,	,,	,,	,,	,,	,,	,,
8	W. E. Hannah, ...	,,	,,	,,	,,	,,	,,	,,
9	A. J. Meyer, ...	,,	,,	,,	,,	,,	,,	,,
10	G. H. Daly, ...	,,	,,	,,	,,	,,	,,	,,
11	D. O'Brien, ...	,,	,,	,,	,,	,,	,,	,,
12	M. M. Gasper,...	,,	,,	,,	,,	,,	,,	,,
13	Ameenoodeen, ...	,,	,,	,,	,,	,,	,,	,,

J. FORSYTH, *Senior Surgeon*, *Govt. Examiner.*

FRED. J. MOUAT, M. D., *Secretary.*

Fort William, 31*st March*, 1852.

Appendix C. No. IV.

List of Final Students of the Military Class for Diploma Examination in the Medical College, Session 1851-52.

Number.	NAMES.	Date of Admission.	Number of times absent, &c., during the year.				Duties performed by them.			General Character.
			Absent.	Sick.	Leave.	Total.	Male Hospital.	Female Hospital.	Out-Door Dispensary.	
							Months	Months	Months	
1	Meer Tej Alli,...	June 1849, ...	10	2	0	12	6	2	2	Fair.
2	Shaikh Nezabuth Alli, ...	June 1849, ...	1	0	0	1	12	0	0	Excellent.
3	Gool Moohummud Khan, ...	June 1849, ...	2	0	0	2	6	2	2	Good.
4	Shaikh Kurreem Buksh, 1st.,...	June 1849, ...	4	1	0	5	9	4	2	Good.
5	Shaikh Azeemoodeen, ...	June 1849, ...	8	2	0	10	4	12	0	Fair.
6	Chirunjen Pautuck, ...	June 1849, ...	7	0	0	7	4	0	12	Fair.
7	Shaikh Alli Moohummud, ...	June 1849, ...	0	0	0	0	6	0	14	Excellent.
8	Shaikh Hyath Buksh,...	June 1849, ...	3	0	0	3	1	0	12	Excellent.
9	Bhugbunt Singh, ...	June 1849, ...	0	0	0	0	2	8	2	Fair.
10	Doorgapersaud, ...	June 1849, ...	0	0	0	0	14	0	2	Very Good.
11	Shaikh Elahee Buksh, 1st., ...	June 1849, ...	0	11	0	11	10	0	2	Very Good.
12	Shaikh Korban Alli, 1st., ...	July 1849, ...	9	3	0	12	4	2	2	Fair.

Number.	NAMES.	Date of Admission.	Number of times absent, &c., during the year.				Duties performed by them.			General Character.
			Absent.	Sick.	Leave.	Total.	Male Hospital.	Female Hospital.	Out-Door Dispensary.	
							Months	Months	Months	
13	Rughonath Singh, ...	Aug. 1849, ...	1	3	0	4	4	3	3	Fair.
14	Balgobind Singh....	Oct. 1849, ...	3	0	0	3	10	2	2	Fair.
15	Shaikh Esmile,...	Oct. 1849, ...	2	0	0	2	4	0	2	Fair.
16	Shaikh Bahadoor, ...	Oct. 1849, ...	1	1	0	2	4	4	2	Fair
17	Syud Ikram Ahmud, ...	June 1849, ...	33	20	0	53	6	2	0	Fair.
18	Shaikh Abdool Rohman, 1st.,...	June 1849, ...	10	13	7	30	4	2	2	Fair.
19	Shaikh Kasim Alli, 1st.,... ...	June 1849, ...	8	0	0	8	8	2	2	Not satisfactory.
20	Shaikh Emdad Hossain, ...	June 1849, ...	9	8	0	17	4	2	2	,,
21	Shaikh Ahmud Alli, ...	June 1849, ...	48	0	0	48	7	0	0	,,
22	Ameer Khan, ...	June 1849, ...	31	9	0	40	2	1	2	,,
23	Shaikh Abdoolla, 1st., ...	June 1849, ...	50	0	0	50	4	0	2	,,
24	Shaikh Rohim Buksh, 1st., ...	June 1849, ...	11	6	0	17	6	2	2	Fair.
25	Shaikh Abdool Gunnee,... ...	June 1849, ...	12	1	0	13	4	4	2	Good.
26	Shaikh Rumzan Alli, 1st., ...	June 1849, ...	3	0	0	3	6	2	2	Fair.
27	Shaikh Wahud Alli, ...	June 1849, ...	4	0	0	4	2	7	2	Fair.
28	Shaikh Elahee Buksh, 2nd., ...	June 1849, ...	3	0	0	3	4	0	2	Fair.
29	Neamuth Khan, ...	July 1849, ...	19	4	0	23	6	0	2	Fair.

30	Shaikh Rumzan Ali, 2nd., ...	July 1849,	14	3	0	17	4	0	2	Fair.
31	Yusuff Khan, ...	July 1849,	5	0	0	5	7	0	2	Fair.
32	Bunda Ali Khan, ...	Oct. 1849,	13	7	1	21	6	0	2	Not satisfactory.
33	Shaikh Hingun, 1st., ...	Oct. 1849,	2	0	0	2	6	2	2	Fair.
34	Meer Akbur Ali, ...	Oct. 1849,	4	0	0	4	6	2	0	Fair.
35	Kondhy Loll, ...	Oct. 1849,	7	0	0	7	4	2	2	Fair.
36	Alla Yar Khan, ...	Oct. 1849,	0	0	0	0	8	2	2	Very Good.
37	Meer Ahmud Ali, ...	Oct. 1849,	0	0	0	0	2	4	2	Excellent.
38	Shaikh Hossain Buksh, 1st., ...	26th April 1850,	1	0	0	1	3	2	3	Good.
39	Amanuth Khan, ...	26th April 1850,	5	0	0	5	3	2	3	Good.
40	Greedharee Lall,...	26th April 1850,	2	2	0	4	3	2	3	Good.
41	Shaikh Chadee, ...	26th April 1850,	1	0	0	1	3	2	3	Good.
42	Moohummud Shuffee, ...	26th April 1850,	15	0	0	15	2	4	2	Fair.
43	Kasim Ali, 2nd., ...	26th April 1850,	6	4	0	10	2	2	2	Good.
44	Rusool Buksh Khan, ...	26th April 1850,	0	0	0	0	3	2	3	Good.
45	Rohim Buksh, 2nd.,...	26th April 1850,	17	0	0	17	3	2	3	Fair.
46	Khyrath Ali Khan, ...	June 1850,	0	0	0	0	3	2	3	Very Good.
47	Korban Ali, 2nd., ...	26th July 1850,	2	0	0	2	3	2	3	Fair.
48	Mirza Jafur Ali, (Free,)	April 1848,	0	0	0	0	11	2	5	Fair.
49	Nuzuff Khan, ...	April 1848,	0	0	0	0	4	2	2	Fair.

FRED. J. MOUAT, M.D.,
Secretary.

MODUSOODEN GUPTA,
Suptd. and Lecturer Mily. Class.

Medical College, 4th March, 1852.

Appendix C. No. V.

List of Students for First Pass Diploma Examination in the Medical College, Session 1851-52.

Number.	NAMES.	Age.	Religion or Caste.	Date of Admission.	Number of times absent since admission.	REMARKS.
1	M. M. Gasper, 5th year,...	22	Christian,...	July 1846,...	74 days.	The greater part of the absence noted has been from sickness.
2	Huris Chunder Dutt, 4th year,.....	24	Koysto, ..	June 1848,...	19 days.	
3	Romes Chunder Goopta, 3rd year,...	19	Boido, ...	June 1849,...	9 days.	
4	Mohes Chunder Ghose, ...	20	Koysto, ...	June 1849,...	7 days.	
5	Roma Churn Bose, ...	22	Koysto, ...	June 1849,...	4 days.	
6	Nundo Coomar Mitter, ...	22	Koysto, ...	June 1849,...	None.	
7	Judoonath Chatterjee, ...	22	Brahmin, ...	June 1849,...	23 days.	
8	Gopeenath Banerjee, ...	22	Brahmin, ...	June 1849,...	38 days.	
9	Brijonath Karfirma, ...	22	Weaver, ...	June 1849,..	11 days.	
10	Grees Chunder Chatterjee, ...	20	Brahmin, ...	June 1849,...	44 days.	
11	Soorjee Coomar Mookerjee, ...	21	Brahmin, ...	June 1849,...	6 days.	
12	Nucoor Chunder Dutt, ...	21	Koysto, ...	June 1849,...	9 days.	
13	J. G. Anderson, ...	22	Christian, ...	June 1849,...	11 days.	

14	H. Hayes, ...	19	Christian, ...	June 1849, ...	17 days.	
15	Kony Loll Dey, ...	20	Banker, ...	June 1849, ...	13 days.	
16	Ashotosh Goopta, ...	20	Boido, ...	June 1849, ...	23 days.	
17	A. Solomon, ...	20	Christian, ...	June 1849, ...	19 days.	
18	Toylockonath Chowdry, ...	20	Koysto, ...	June 1849, ...	42 days.	
19	Gopeenath Doss, ...	21	Koysto, ...	June 1849, ...	12 days.	
20	Chundernath Bose, ...	21	Koysto, ...	June 1849, ...	7 days.	
21	Koylas Chunder Dutt, ...	22	Koysto, ...	June 1849, ...	31 days.	
22	Russick Chunder Paul, ...	21	Sutgope, ...	June 1849, ...	11 days.	
23	A. Eteson, ...	19	Christian, ...	Nov. 1849, ...	1 day.	
24	J. B. Ferdinands, ...	20	Christian, ...	June 1849, ...	1 day.	
25	W. H. Morgan, ...	20	Christian, ...	June 1849, ...	4 days.	
26	P. A. Minas, ...	23	Christian, ...	June 1849, ...	28 days.	

FRED. J. MOUAT, M. D.,
Secretary.

Medical College, 8th March, 1852.

Appendix C. No. VI.

List of Students for Final Examination in the Medical College Session 1851-52.

Number.	NAMES.	Age.	Religion or Caste.	Date of Admission.	No. of times absent since admission.	REMARKS.
						Clinical Clerk. *Dressers.*
1	Abdool Hamid, 1st., ...	24	Moohummudan,	15th Dec. 1846,	21 days,	7 Months and 6 months, gained 2 certificates.
2	Abdool Hamid, 2nd, ...	21	Moohummudan,	15th Dec. 1846,	12 days,	6 Months and 6 months, gained 2 certificates.
3	Brindabun Chunder Chatterjee, ...	23	Brahmin, ...	1st May 1847,	16 days,	5 Months and 6 months, gained 1 certificate.
4	Gopal Chunder Pautuck,	24	Brahmin, ...	1st May 1847,	9 days,	5 Months and 6 months.
5	Umbika Chunder Chatterjee, ...	24	Brahmin, ...	1st May 1847,	18 days,	8 Months and 6 months, gained Goodeve Scholarship and 1 certificate of honor.
6	Chunder Coomar Dey, ...	23	Koysto, ...	1st May 1847,	9 days,	8 Months and 6 months, P. P. 2 months, gained 1 Gold Medal and 2 certificates of honor.
7	Brijonath Bundoo, ...	23	Koysto, ...	1st May 1847,	28 days,	7 Months and 8 months, P. P. 3 months, gained 1 Gold Medal and 4 certificates of Honor.
8	W. E. Hannah,...	22	Christian,...	1st May 1847,	18 days,	6 Months and 6 months.
9	A. J. Meyer, ...	22	Christian,...	1st May 1847,	16 days,	7 Months and 6 months, gained 2 certificates.
10	G. H. Daly, ...	21	Christian,...	July 1847,	20 days,	8 Months and 7 months, P. P. 3 months, gained 2 Gold and 1 Silver Medal, Clinical Prize and 7 certificates.
11	D. O' Brien, ...	21	Christian,...	Nov. 1847,	29 days,	6 Monthsand 6 months, gained 3 certificates.
12	M. M. Gasper, ...	23	Christian,...	June 1845,	74 days,	6 Months and 6 months, gained 1 certificate.
13	Ameenoodeen, ...	...	....	....	.....	Remanded from last year for re-examination in Medicine only.

Medical College, 8th March, 1852.

FRED. J. MOUAT, M. D., *Secretary.*

Appendix C. No. VII.

Result of the Final Examination of Students of the Military Class of the Medical College, Session 1851-52.

Number.	NAMES.	Anatomy and Physiology, Practical and viva voce.	Materia Medica and Chemistry.	Medicine.	Surgery, Practical and Oral.	REMARKS.
1	Meer Tej Ali, ...	Qualified,	Qualified,	Qualified,	Qualified,	Passed.
2	Shaikh Nezabuth Ali, ...	,,	,,	,,	,,	,,
3	Gool Moohummud Khan, ...	,,	,,	,,	,,	,,
4	Shaikh Kurreem Buksh, 1st., ...	,,	,,	,,	,,	,,
5	Shaikh Azeemoodeen, ...	,,	,,	,,	,,	,,
6	Chirunjen Pautuck, ...	,,	,,	,,	,,	,,
7	Shaikh Ali Moohummud, ...	,,	,,	,,	,,	,,
8	Shaikh Hyath Buksh, ...	,,	,,	,,	,,	,,
9	Bhughut Singh, ...	,,	,,	,,	,,	,,
10	Doorgapersaud, ...	,,	,,	,,	,,	,,
11	Shaikh Elahee Buksh, 1st., ...	,,	,,	,,	,,	,,
12	Shaikh Korban Ali, 1st., ...	,,	,,	,,	,,	,,
13	Rughonath Singh, ...	,,	,,	,,	,,	,,
14	Balgobind Singh, ...	,,	,,	,,	,,	,,
15	Shaikh Esmile, ...	,,	,,	,,	,,	,,
16	Shaikh Bahadoor, ...	,,	,,	,,	,,	,,
17	Syud Ikram Ahmud, ...	Not qualified,	Not qualified,	Not qualified,	Not qualified,	Rejected,
18	Shaikh Abdool Rohman, 1st., ...	,,	Qualified,	Qualified,	,,	,,
19	Shaikh Kasim Ali, 1st., ...	Qualified,	Not qualified,	Not qualified,	Qualified,	,,
20	Shaikh Emdad Hossain, ...	,,	,,	Indifferent,	Not qualified,	,,
21	Shaikh Ahmud Ali, ...	,,	,,	Not qualified,	,,	,,
22	Ameer Khan.	,,	Qualified,	,,	,,	,,
23	Shaikh Abdoolla, 1st., ...	,,	,,	,,	,,	,,

Number.	NAMES.	Anatomy and Physiology, Practical and viva voce.	Materia Medica and Chemistry.	Medicine.	Surgery, Practical and Oral.	REMARKS.
24	Shaikh Rohim Buksh, 1st.,... ...	Qualified,	Qualified,	Qualified,	Qualified,	Passed,
25	Shaikh Abdool Gunnee,...	,,	,,	,,	,,	,,
26	Shaikh Rumzan Ali, 1st., ...	,,	,,	,,	,,	,,
27	Shaikh Wahud Ali, ...	,,	,,	,,	,,	,,
28	Shaikh Elahee Buksh, 2nd., ...	,,	,,	,,	,,	,,
29	Neamuth Khan, ...	Not qualified,	,,	Not qualified,	,,	Rejected,
30	Shaikh Rumzan Ali, 2nd., ...	,,	,,	,,	,,	,,
31	Yusuff Khan, ...	Qualified,	,,	Barely qualified,	,,	Passed.
32	Bunda Ali Khan, ...	,,	Not qualified,	Not qualified,	Not qualified,	Rejected.
33	Shaikh Hingun, 1st., ...	Not qualified,	,,	Qualified,	,,	,,
34	Meer Akbur Ali, ...	,,	,,	Not qualified,	,,	,,
35	Kondhy Lall, ...	Qualified,	Qualified,	,,	,,	,,
36	Alla Yar Khan, ...	,,	,,	Qualified,	Qualified,	Passed,
37	Meer Ahmud Ali, ...	,,	,,	,,	,,	,,
38	Shaikh Hossain Buksh, 1st., ...	,,	,,	,,	,,	,,
39	Amanuth Khan, ...	,,	,,	,,	,,	,,
40	Greedharee Lall,...	,,	,,	,,	,,	,,
41	Shaikh Chadee, ...	,,	,,	,,	,,	,,
42	Moohummud Shuffee,...	,,	,,	,,	,,	,,
43	Kasim Ali, 2nd., ...	,,	,,	,,	,,	,,
44	Rusool Buksh Khan, ...	,,	,,	,,	,,	,,
45	Rohim Buksh, 2nd., ...	,,	Not qualified,	Not qualified,	Not qualified,	Rejected,
46	Khyrath Ali Khan, ...	,,	Qualified,	Qualified,	Qualified,	Passed.
47	Korban Ali, 2nd., ...	,,	,,	,,	,,	,,
48	Mirza Jafur Ali, (Free,)	,,	,,	,,	Not qualified,	,,
49	Nuzuff Khan, ...	,,	Not qualified,	Not qualified,	Qualified,	Rejected,

Medical College, 30*th March*, 1852.

FRED. J. MOUAT, *Secretary*.

Appendix C. No. VIII.

Result of the First Pass or Diploma Examination of Students of the Medical College, Session 1851-52.

No.	NAMES.	Anatomy and Physiology.		Botany.	Chemistry.	Materia Medica.	Remarks.
		Descriptive Anatomy.	*Physiology.*				
1	Hurris Chunder Dutt, ...	Absent, ..	Absent, ..	Absent, ..	Absent, ..	Absent, ..	
2	Romes Chunder Goopta, ...	.....	.....	.....	.....	.....	Case referred to the College Council.
3	Mohes Chunder Ghose, ...	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed with credit.
4	Roma Churn Bose, ...	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed.
5	Nundo Coomar Mitter, ...	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Not passed,	Remanded for 3 months in Materia Medica. [Council.
6	Judoonath Chatterjee, ...	.....	.....	.....	.....	.....	Rejected in every subject, and case referred to the College
7	Gopeenath Banerjee, ...	Not passed,	Passed, ..	Not passed,	Not passed,	Not passed,	Rejected. [Chemistry.
8	Brijonath Karfirma, ...	Passed, ..	Passed, ..	Passed, ..	Not passed,	Passed, ..	Barely passed in Physiology, remanded for 3 months in
9	Grees Chunder Chatterjee,	.....	.....	.....	.....	.....	Rejected in every subject, and case referred to the College Council.
10	Soorjee Coomar Mookerjee,	Passed, ..	Passed, ..	Passed. ..	Passed, ..	Passed, ..	Passed.
11	Nucoor Chunder Dutt, ...	Not passed,	Not passed,	Not passed,	Passed, ..	Not passed,	Rejected.
12	J. G. Anderson, ...	Not passed,	Passed, ..	Not passed,	Passed, ..	Passed, ..	Rejected.
13	H. Hayes,...	Not passed,	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Remanded for 1 year in Descriptive Anatomy. [siology.
14	Kony Lall Dey, ...	Passed, ..	Not passed,	Passed, ..	Passed, ..	Passed, ..	Barely passed in Botany, and remanded 3 months in Phy-
15	Ashotosh Goopta, ...	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed.
16	A. Solomon, ...	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed. [Council.
17	Toylockonath Chowdery, ...	.....	.....	.....	.....	.....	Rejected in all subjects, case referred to the College
18	Gopeenath Doss, ...	.....	.....	.....	.....	.....	Rejected in all subjects, case referred to the College Council.
19	Chundernath Bose, ...	Passed, ..	Passed, ..	Passed, ...	Passed, ..	Passed, ..	Passed.
20	Koylas Chunder Dutt, ...	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Passed.
21	Russick Chunder Paul, ...	Passed, ..	Not passed,	Passed, ..	Not passed,	Passed, ..	Rejected.
22	A. Eteson,...	Passed, ..	Passed, ..	Passed, ..	Not passed,	Passed,..	Not entitled to the junior Diploma, not having completed the prescribed period of study, and remanded in Chemistry for 1 year.
23	J. B. Ferdinands, ...	Not passed,	Passed, ..	Not passed,	Passed, ..	Passed, ..	Rejected. [for 1 year in Descriptive Anatomy.
24	W. H. Morgan, ...	Not passed,	Passed, ..	Passed, ..	Passed, ..	Passed, ..	Barely passed in Botany and Chemistry, remanded
25	P. A. Minas,...	Passed, ..	Not passed,	Not passed,	Not passed,	Passed, ..	Rejected.
26	M. M. Gasper,...	.....	.....	Passed, ...	.....	.....	Barely passed in Botany.

Medical College, March 26, 1852.

Fred. J. Mouat, M. D., *Secretary.*

FINAL

AND

TEST AND HONOR

EXAMINATION QUESTIONS

WITH THE

ANSWERS

OF THE

MOST PROFICIENT STUDENTS.

The answers are reprinted *verbatim* from the MSS. of the students, every error of grammar and fact being retained.

Readers in Europe must remember, that the answers of the native students are not only written in a given time, but also in a foreign language, with which most of them are imperfectly acquainted when they begin the study of medicine; literary excellence, therefore, cannot be expected in them.

Appendix D.

EXAMINATIONS.

QUESTIONS FOR FINAL STUDENTS.

SURGERY.

What are the component parts of bone, and the relative proportions assigned to them at different periods of life? Describe the structure of long bones, the process by which, all things being favourable, nature effects reunion of fractured long bones,—the femur for example, and the conditions necessary to this favourable reunion.

Mention the points at which the femur is most liable to be broken, and describe minutely the most approved methods of putting up a case of simple fracture of the neck of this bone, as well as at different points of the shaft, noticing the various circumstances to be carefully looked to throughout the after treatment.

What is the time usually occupied in the formation of provisional callus, and also in completing firm and permanent union of the bone? Is callus formed in all situations where fractures occur?

After what lapse of time is it considered safe to attempt to use the limb after fracture of the femur, with reference to the age of the individual, and the situation of the fracture? What is the most approved practice when union has not taken place after the usual interval?

Detail the mode of putting up and treating a compound fracture of the shaft of the femur, and state the circumstances attendant on a recent injury of this kind, that would induce you to recommend immediate amputation of the limb.

MEDICINE.

Mention briefly some of the diseases to which the principal thoracic viscera are most subject. Describe in detail the process recommended for the detection and discrimination of those diseases, the method of examination by percussion and auscultation.

Enumerate first the healthy, and then the morbid sounds of respiration.

What are the general symptoms and physical signs of the two stages of Phthisis Pulmonalis, incipient and confirmed?

Give the pathology of tubercle, and mention the difference of anatomical character between the early and advanced stages of phthisis.

Mention the more common predisposing and exciting causes of the disease.

State the principal indications of treatment in both stages, and the means and remedies recommended for their fulfilment.

HONOR AND TEST EXAMINATIONS.

ANATOMY AND PHYSIOLOGY.

1. Describe the structure of one of the lobules of the liver.
2. Give the structure of unstriped muscular fibre, and state in what parts of the body it is found.
3. What are the structure and contents of a Graafian vesicle?
4. What are the functions of the different branches of the inferior maxillary nerve?
5. Describe the different modes of absorption.

BOTANY.

1. Describe the anatomical structure of a leaf.
2. Describe a *papilionaceous* flower.
3. Describe the different kinds of placentation.
4. Describe the structure of the Ovulum in its most simple, and most perfect condition.
5. What is the meaning of a *Genus* in plants?
6. In the *Calyciflorœ*, how does *perigynous* differ from *epigynous* insertion of the stamens?
7. How are the natural orders of the *Orchideœ* and *Scitamineœ* distinguished from each other?
8. What sorts of fruit are the tamarind (or *imli*); the rose apple (or *jamrool*); the plantain (or *kelah*); the custard-apple (or *ata*); and the mulberry (or *toot*)?

CHEMISTRY.

1. What is soda? How is it procured? What are its tests and its most important saline combinations?
2. What is the lactic fermentation? How is it excited?—and what are its results?
3. What is silicic acid? What are the different states in which it exists?—and what are its most important combinations?
4. What are albumen, fibrin, and casein and their tests, and what are the analogous vegetable substances?
5. What are the compounds of sulphur and oxygen and their properties?
6. What are the compounds of sulphur and hydrogen and their properties?

MATERIA MEDICA.

1. In what manner is Iodine obtained? What are its characteristics tests, physiological effects, therapeutical uses? Name the principal compounds used in medicine.
2. Describe the effects produced on the organism by its continued exposure, in any manner, to the action of the compounds of lead.

3. What is Strichnia? Describe fully its physiological effects, mention its uses and dose.
4. What are the physiological effects of the preparations of aconite?

MIDWIFERY.

1. What are the varieties, causes and treatment of painful menstruation?
2. What is the object of the operation of turning the child? Under what conditions can it be most safely performed? What means may be used to facilitate the operation?
3. What are the varieties, causes and treatment of puerperal convulsions?
4. What are the symptoms of rupture of the uterus? What is the treatment?

MEDICAL JURISPRUDENCE.

1. Describe the symptoms, treatment, post mortem appearances and tests for poisoning by sulphate of copper.
2. What treatment would you adopt in poisoning by nitrate of silver?
3. Describe the post mortem appearances produced by poisoning by corrosive sublimate or the bichloride of mercury.
4. Death being produced by the bite of a snake, mention briefly the characteristic post mortem appearances you have observed.
5. Describe the tests for arsenic.
6. What treatment would you use in poisoning by the preparations of lead, and mention the tests for carbonate of lead?
7. Describe the tests for tartar emetic.

SURGERY.

1. State how mortification of a part may be produced, how it should be treated; when you should, and when you should not amputate in mortification.
2. Describe the different dislocations of the shoulder joint, and how they are to be treated.
3. What are the symptoms of a fracture of the neck of the scapula? What accident may it be mistaken for? How is the real nature of this injury to be ascertained?
4. In wounds of the abdominal cavity, what are the symptoms which would lead you to conclude that the stomach, the spleen, an intestine, or a kidney was penetrated or ruptured?
5. In a penetrating wound of the thorax or abdomen, what are the symptoms which indicate internal hœmorrhage?
6. What diseases and accidents call for the amputation of the shoulder joint? Describe that operation.

MEDICINE.

1. Give the symptoms, anatomical characters, and physical signs of Pleurisy, acute and chronic, with an outline of the treatment.
2. Detail the symptoms, morbid appearances, and treatment of Dysentery.
3. What are the measures to be adopted when an individual is seized with cerebral apoplexy?
4. How do we judge of the propriety, and of the requisite amount of blood-letting, in inflammations?
5. What are the signs of delirium tremens? How is it distinguished from Phrenitis? What are the methods of treatment suitable to the two cases?
6. Detail the symptoms, ordinary terminations, anatomical characters, and treatment of acute hepatitis.

ANSWERS.

SURGERY.

FINAL EXAMINATION.

Answer 1*st.*—The component parts of bone are earthy and animal matter, the former predominating in the old and the latter in the young.

Long bones consist of a shaft and extremities. The shaft consists of compact dense structure, having a canal in the interior, the medullary canal, the extremities consist of cancellated structure.

The following is the process by which fractured bone unites. All things being favourable, on the receipt of injury a larger or smaller quantity of blood is effused, this after a short time is absorbed and the deposition of coagulable lymph or fibrine takes place. This usually occupies about ten days and constitutes the 1st stage. At this time a reddish, spongy vascular substance is formed between the ends of the bones, and in the swelling around the fracture, specks of bone begin now to be deposited—this constitutes the second stage and extends from the tenth to the twenty-fifth day. During this stage the effused lymph on the outside of the bones becomes ossified, it first assumes a fibrous structure, then cartilaginous and gradually osseous—Similar changes are going on in the medullary canal—In the third stage extending from the 25th day to the end of the 6th or 8th week, the external swelling becomes completely ossified and firm, the medullary membrane undergoes the same change, the ends of the fracture however are not united. The fourth stage extends from the 6th or 8th week to the end of the 5th or 6th month during which time the external provisional callus has become completely ossified, the ossification of the medullary membrane is also perfect and the ends of the bones are now truly united together.

The fifth stage reaches from the fifth or sixth month to the twelfth during this period the external provisional callus is absorbed and removed and direct union of the fragments is strong. The medullary canal immediately after receipt of injury becomes filled with matter which ossifies and fills up the canal, but which is altogether removed by absorption between the fifth and twelfth months.

The conditions necessary for favourable union of bone are complete apposition of the broken ends, a requisite amount of vascular action, a healthy condition of the constitution and perfect rest and quietude of the limb.

The points at which the femur is most liable to be broken during adolescence and adult age are at the upper, middle, and lower thirds of the shaft, in old age at the neck of the femur especially within the capsule. In fractures of the neck of the femur after adjusting the limb, a broad belt or double cloth binder should be fixed round the hips and drawn tightly, so as to secure the apposition of the fractured ends, and keep them in contact: after having done this a long splint, called Dessaults splint, extending from the nipple to a little beyond the foot, having at

its upper extremity two openings, and forked at the lower end. The splint is first fastened by a bandage to the foot, a towel well padded, is placed between the injured thigh and the scrotum and the ends passed through the holes before mentioned and tightened so as to push down the splint and thereby causing extension of the limb to the requisite extent, after this the whole limb may be bandaged up or rolled in a sheet, and at the upper part of the splint fastened to the body by a bandage—The circumstances to be noticed in the treatment of this fracture are the following: the broken ends of the bone should be kept in close apposition, the limb should be kept of the same length as that of the healthy limb, preventing consequent shortening, the foot should be kept moderately inverted, or perfectly upright, so as to prevent permanent eversion.

The treatment for fractures of the shaft either at the middle, upper or lower third is the same as that for fracture at the neck, omitting the belt round the hip, and applying two small splints one external and the other internal to the thigh and bandaging them up previous to placing the long splint, so as to cause equable pressure on the whole surface of the thigh, and complete apposition of the broken ends. In lieu of the long splint, the double inclined plane may be employed. It is a more comfortable position to the patient, besides, this prevents displacement of the upper end of the bone in fracture of the upper third of the shaft. The inclined however has not the advantages of the long splint, deformities more frequently are the result of its use. The circumstances to be attended to in the treatment of these fractures, are the following, the bones should be in apposition, and the broken ends in as normal a position as possible, thereby preventing great shortening and terrible deformity, by the broken ends (instead of being in apposition,) being placed, one on top of the other.

The time usually occupied in the formation of the provisional callus is from 6 to 8 weeks and from 6 to 12 months for the formation of the permanent callus.

Callus is not formed in all situations: the following are the situations where bony union does not take place, fracture of the neck of the femur within the capsule, fracture of the patella, ditto of the olecranon process of the ulna, ditto of the neck of the humerus within the capsule, ditto of the bones of the skull &c.

In adult age the limb in fracture of the shaft, may be used after the 4th week, in childhood after the 28th or 30th day, in old age, after the 6th to the 8th week. After fracture of the neck wthin the capsule never before the 8th week and in old people frequently not before the 12th week.

When union of the bones does not take place after the usual period some means must be had recourse to in order to bring about the union. Non-union may arise from several causes, 1*st* from a deficiency of vascular excitement, when, in the treatment for fracture it is found that there is no pain in the part and no constitutional disturbance, it is necessary to excite such, by moving the fractured limb moderately, by applying tight bandages, and by placing the patient on a full and generous diet. If none of these succeed, some Surgeons recommend cutting down upon the seat of injury and sawing off the ends of the bone; but this practice is very frequently attended with serious damage, the excitement progressing to inflammation, suppuration and sloughing

succeeding, placing the patients life in the greatest jeopardy from which it can only be relieved by amputation—but the excitement having been moderate and the bones uniting there still is left great deformity from shortening. Another plan recommended is passing a trochar down to the seat of injury, and then applying the red precipitate to the broken ends. The red precipitate almost always excites a moderate degree of inflammation, and is always a better remedy than the foregoing.

2*nd.*—From a diseased or peculiar state of the constitution. Persons of a scrofulous or otherwise of a weak state of the constitution are most liable to non-union of fracture. In these nutritious diet and good air with appropriate constitutional treatment will be found beneficial. Where there is a syphilitic taint in the system, mercury should be given cautiously, in alterative doses, when union generally will take place. Mercury will often cause fracture to unite even when there is no syphilitic taint.

3*rd.*—When the limb has not been kept quiet. This is a very frequent cause of non-union, the limb being frequently moved during the first few weeks, the disposition to union has been lost and is with difficulty reproduced. If proper means be not resorted to a false joint will form in the limb, in which the ends of the bones will become, rounded and covered with a hard deposit and inclosed by ligaments. Before such false joint has formed, the ligamentous adhesions that exist should be broken up by moving the fracture and reproduce vascular excitement by which and the subsequent use of tight bandages and splints, union may at length be accomplished. Should this not succeed a seton may be passed between the broken ends of the bone and be retained there till the necessary amount of action be excited, it may then be withdrawn, and the limb put up in splints and bandages. If this does not succeed the same treatment as that for deficient vascular action may be had recourse to.

The treatment of a compound fracture consists in placing the broken bones in apposition and healing the external wound by the first intention if possible, so as to convert a compound into a simple fracture. If the end or ends of the bone protrude and cannot be replaced without enlarging the opening one of two means of reduction are to be attempted, the first is to saw off the protruding portion and the second is to enlarge the wound. The first is probably the better plan, as the enlarging of the wound increases the danger of the injury. If however the second plan be pitched upon, the lower lip of the wound should be divided, as it is always this lip and not the upper one that prevents the reduction of the bone.

After replacing the broken ends, the hæmorrhage having been stopped, if excessive, by ligature or by pressure as the case may be, the lips of the wound are brought together, by adhesive plaister and if need be by satures, placing a piece of lint between the wound and plaister, so as to prevent irritation. Sir A Cooper then recommends the part to be covered with lint steeped in the blood of the patient—the limb is now to be placed in the most convenient position viz. on a double inclined plane and all the inflammatory symptoms treated by the antiphlogistic regimen. If the case should be favourable, moderate inflammation of the wound takes place followed by suppuration; at the end of the third or fourth day, granulations are formed by the bone and soft parts, which coalescing close the external wound and afterwards consolidate the fracture, the ossific matter being deposited in the granulation proceed-

ing from the bone and periosteum. Compound fractures are seldom healed before the tenth or twelfth week after the receipt of injury. During this time the wound should be dressed daily or every second or third day according to the quantity of discharge, and fresh dressings be applied, supported by means of bandages which press moderately on the parts and hence the advantage of the many tailed bandage over the roller are apparent as they may be removed with facility without any disturbance of the parts.

It is seldom that a compound fracture proceeds to its termination without troublesome or dangerous symptoms. The most common of these are violent inflammation leading on to sloughing, mortification and producing irritative fever and death, secondary hœmorrhage, and tetanus.

Violent Inflammation generally commences towards the end of the first twenty-four hours after the receipt of the injury and should be at once combated by the antiphlogistic treatment, as a preventive measure, for the result is liable to be sloughing and mortification. General bleeding if not contraindicated should be had recourse but sparingly, otherwise the patient will be too much debilitated and disable him from bearing up against the future calls on his constitution. Leeches and fomentations should be applied about the wound, and this be enveloped in a poultice or treatment by water dressing may be resorted to. The bowels should be opened by enematæ and the use of these followed by the exhibition of diaphoretic medicines. When profuse suppuration ensues, the lodgement of matter should be prevented by the wound being placed if possible in a dependant position, and if necessary by incision. The suppuration may be caused by foreign bodies in the wound or by speculæ of bone or by the too long continued use of poultices and hot fomentations. If the former be present, they should be removed, the latter should be at once discontinued, and simple or astringent dressing applied, the patients constitution being supported by bark, quina and a generous diet. Mortification generally appears on the third or fourth day. If partial, the slough separates and the wound heals by granulation. Should it extend and threaten the life of the patient amputation must be performed, if not contraindicated by the state of the constitution. If the gangrene appear to have been the result of a debilitated constitution, not of the local injury, amputation must not be performed.

Secondary Hæmorrhage. This proceeds from sloughing of some of the arteries of the limb and generally requires amputation. When it proceeds from this cause, it does not appear for some days after the accident. Bleeding however may take place immediately on the receipt of the injury, from laceration of the vessels.

When Tetanus occurs, it is generally advisable to amputate if the strength of the patient will permit—or if the patient be too weak to submit to the operation narcotics and sedatives such as ether, chloroform, hemp &c. and free purgation.

The circumstances that demand amputation are 1st. When the bones are much comminuted and the soft parts at the same time extensively destroyed. 2nd. When the principal vessels and nerves of the limb are injured. 3rd. When the age and constitution of the individual lead us to suppose that he may be unable to support the difficulties attending the union of the fracture—and 4th. When the knee joint has been opened into and exposed to the influence of the atmospheric air.

George Daly.

MEDICINE.

(1.) The diseases to which the lungs are subject are bronchitis, pneumonia, emphysema, phthisis, hœmoptysis, pulmonary apoplexy, ædema, asthma, and cancer.

The affections of the pleura are pleurisy, hydrothorax, hæmothorax, pneumo-thorax, hydro-pneumo-thorax.

The diseases of the heart and pericardium are endocarditis, carditis, valvular disease, aneurism of the heart, atrophy, hypertrophy, morbid deposits in the substance of the heart, such, for instance, as tubercle, cancer, fat, &c., fatty degeneration, pericarditis, hydro-pericardium, pneumo-pericardium, and hydro-pneumo-pericardium.

The foregoing diseases are detected chiefly by the different methods of physical diagnosis which may be classified under the heads of *inspection*, application of the hand or palpation, mensuration, percussion, auscultation, succussion, and situation of adjoining organs.

Percussion is either immediate or mediate. Immediate percussion is performed by striking the chest with the tips of one or more fingers, the last phalanges of which are bent nearly to a right angle with the second Mediate percussion is that in which something is interposed between the ends of the fingers and the surface of the chest. The interposed substance is called a pleximeter. This may be either a piece of ivory or one or more fingers of the other hand—the latter kind of pleximeter being the best and that which is available at all times.

Auscultation is of two kinds viz. immediate or mediate. When the ear of the observer is directly applied to the surface of the chest, the auscultation is said to be immediate; when, however, the stethoscope is interposed, it is denominated mediate.

(2.) The following is a tabular enumeration of the healthy and morbid sounds of respiration:

- Healthy sounds of respiration, ...
  1. Pulmonary or Vesicular.
  2. Bronchial.
  3. Tracheal.
  4. Laryngeal.
- Abnormal sounds of respiration,
  - Abnormal with regard to rhythm, ...
    1. Jerking.
    2. Divided.
    3. Incomplete.
    4. Cogged wheel.
  - With regard to specific character, ...
    1. Harsh,
    2. Bronchial.
    3. Blowing....
       - Tubular.
       - Diffuse.
       - Cavernous.
       - Amphoric.
  - Abnormal sounds superseding the healthy murmurs or rhonchi .....
    - Dry, ..
      1. Sonorous,
         - Rubbing.
         - Cooing.
         - Snoring.
      2. Sibilant.
      3. Dry crackling.

- Abnormal sounds of respiration,
  - Abnormal sounds superseding the healthy murmurs or rhonchi,
    - Moist,
      1. Crepitant.
      2. Subcrepitant.
      3. Mucous.
      4. Cavernous and cavernulous.
      5. Humid crackling.
    - Crepitant: True liquid continuous.
- Adventitious abnormal sounds heard during respiration,
  1. Friction sound,
     - Grazing.
     - Rubbing.
     - Grating.
     - Creaking.
  2. Metallic tinkling.
  3. Metallic echo.

Signs and symptoms of phthisis pulmonalis. (A). Physical signs of the incipient stage or the stage of tuberculous consolidation. These may be described under the following heads—

Inspection. Bulging of the infraclavicular region; this is followed by depression; slight, if any, diminution of the costal movements of the infraclavicular region.

Palpation. Vocal and tussive fremitus slightly exaggerated.

Mensuration. This affords no definite sign at the early part of this stage. When, however, depression has set in, the antero-posterior diameter of the infraclaviculin region is diminished.

Percussion. Slight dulness of the percussion-note with increased resistance of the thoracic parietes sound, after full expiration, duller over the affected part than over the corresponding part of the opposite side.

Auscultation. Respiration weak in some parts, exaggerated in others, bronchial, jerking or cogged-wheel in rhythm, bronchophony; dry crackling rhonchus; heart sounds more distinctly audible than usual; subclavian hum or blowing.

Physical signs of the stage of softening.

Inspection. Marked depression of the infraclaviculin region; costal movements diminished.

Palpation. Vocal and tussive fremitus more exaggerated.

Mensuration. Antero-posterior measurement of upper part of chest diminished on the affected side.

Percussion—Dulness more marked, in some cases wooden.

Auscultation. Sibilant and sonorous rhonchi of coexisting bronchitis; humid crackling; mucous rhonchus; respiration blowing; bronchophony.

Situation of surrounding organs. Elevation of the heart and the corresponding half of the diaphragm.

Physical signs of the stage of excavation.

The inspection, palpation, mensuration, and percussion—signs pretty much the same as in the preceding stage, except that they are more marked, and that cracked-metal percussion-note is now added to the list. Now for the signs afforded by *auscultation*—respiration blowing, cavernous, amphoric; cavernous and cavernulous rhonchus; pectoriloquy; metallic tinkling.

So much for the physical signs of chronic phthisis. Now for the general symptoms. *Cough.* This is very slight in the beginning—being observed only in the mornings and evenings. It subsequently becomes, however, more frequent and occasionally paroxysmal in its character. At the commencement of the disease, it is dry, or accompanied by a little mucous expectoration. The expectoration, however,

increases in quantity as the disease advances: it alters also in quality—being muco-purulent in its character after softening of the tuberculous deposit has commenced. Sometimes tuberculous matter has been coughed up and found mixed with the expectoration. Chomel, I believe, mentions that the sputa of the advanced stages of phthisis are nummular in form. Dyspnœa. This is great in some cases and slight in others. *Hœmoptysis.* This has been found very frequently in phthisis. From the statistics given by Dr. Walshe in a number of the British and Foreign medico-chirurgical review, it is evident that it occurs more frequently after the commencement of softening than before. This is not in accordance with the experience of other eminent physicians, who believe that it is more frequently met with at the stage of tuberculous consolidation than at any other period. *Voice.* This becomes generally feeble and reduced to a whisper towards the latter stages of the disease. The pulse is frequent and feeble and becomes fluttering some hours before death. The *intellect* remains unaffected to the last. It has been observed of tuberculous patients that they are very hopeful of their recovering. *Tongue* varies in its character—latterly it becomes, occasionally, red at tip and edges. Appetite continues good for some time but subsequently becomes greatly impaired. *Bowels* naturally open, in some cases throughout the whole course of the disease. In others and particularly at the advanced stage of the disease they become loose. This looseness may be due either to the irritation caused by accumulated morbid acrid secretions or to ulceration of Peyer's patches produced by the deposit of tubercle in them. *Emaciation* is very well-marked towards the latter part of the disease. The *skin*, at the advanced stage of the disease, perspires very profusely. When softening of the tubercle and excavation of the lung-substance commence, symptoms of hectic fever set in.

Tubercle is a morbid non-vascular organic product. It is an effect of perverted nutrition. On examination under the microscope, it exhibits an amorphous substance, which is fibrinous in its chemical character, a number of granules which are either fibrinous, fatty, or calcareous in their ultimate composition and imperfect corpuscles. These corpuscles have a tendency to disintegrate—the effect of this being what is called softening of tubercle. They have no reproductive power i. e. the power of generating other cells. Tubercle is deposited in the interstitial areolar tissue of the parenchyma of the lung and within the air-cells and in various other parts of the body. To the naked eye tubercle presents two varieties, well-known under the names of grey and yellow tubercle. In the latter the granules predominate; in the former, the corpuscles.

The difference of anatomical character between the early and advanced stages of phthisis is as follows. In the early stage the lung-substance is merely consolidated by the tuberculous deposit which exists under the form of what M. Louis calls semitransparent grey granulations. In the advanced stage, we find excavations in the parenchyma of the lung and softened tubercle in the shape of yellow tubercle.

The common predisposing causes of phthisis are chiefly debilitating in their character. They are impure air, imperfect nutrition, depressing passions, reverses in fortune, ill-clothing, excessive discharges from the system, hereditary predisposition, &c. The exciting causes are exposure to cold and damp, repressed eruptions, termination of pregnancy, &c.

The indications of treatment are to improve the general state of health, to remove or alleviate the effects of the tuberculous deposit and to meet urgent symptoms. The remedies that have been proposed to fulfil the first indication are iodide of potassium, cod-liver oil, and several others. Dr. Walshe does not seem to put much faith in the powers of the iodide of potassium. Cod-liver oil is, however, *the* remedy for the tuberculous diathesis. In several cases of advanced phthisis it has worked miracles by arresting the progress of the disease. To fulfil the second indication frictions with tartar-emetic ointment, application of flying blisters and various other remedies have been proposed. The third indication is fulfilled by stramonium and morphia, which alleviate the cough, which becomes at times very troublesome and annoying to the patient; by chalk-mixture, acetate of lead and opium which relieve and at times check the diarrhœa and by astringent applications consisting of nitrate of silver or of other remedies of the same class to the larynx to alleviate the symptoms which have their seat in it.

CHUNDER COOMAR DEY.

HONOR AND TEST EXAMINATIONS.

ANATOMY AND PHYSIOLOGY.

1*st. Answer.*—The lobules of the liver are minute bodies about the size of a pin's head. Each is composed of the ramification of the portal vein, the hepatic vein the biliary ducts—lymphatics—nerves—with a scanty portion of fine areolar tissue. The areolar tissue surrounds the vaginal portion of the lobules—and serves to connect each lobule with the neighbouring ones. Its quantity is so very small that its existence has been denied by many anatomists. It is destitute of fat.

The intra-lobular branches of the portal veins are derived from the interlobular veins. These enter the lobules in different points and form by their division and anastomoses a capillary network called the lobular venous plexus.

From this venous plexus, radicles of the hepatic veins arise—their number corresponding with the elevations on the external surface of the lobules. They pour their blood to a central branch called the intra-lobular hepatic vein, which pierce the lobule at its base and open into a sublobular hepatic vein.

The biliary duct commences by a network which are placed in the meshes formed by the network of the lobular venous plexus. Their structure consists of a simple basement membrane lined internally by neucleated cells. These cells not only line the interior of the ducts but they may be said to fill them. They are the agents by which the secretion of bile is effected. Their size varies from $\frac{1}{800}$ to $\frac{1}{1200}$ of an inch. They contain a neuclei which is obscured by the granular contents of the cells. Some fat globules are also contained in the cells. Nerves and lymphatics have not been traced to within the lobules, but they are infered to exist and therefore they are mentioned among the structural elements of the lobules.

Respecting the hepatic artery, there is some difference of opinion. Some maintain that they enter the lobules, while others assert that they

end in a capillary network outside the lobules, from which venous radicles arise and pour their blood into the portal veins. The latter view is the more probable one and therefore the hepatic artery is not reckoned as entering into the formation of a lobule.

2nd Answer.—Unstriped muscular fibres are flattened fibres with a dark outline and granular aspect. They are marked here and there with elongated neuclei placed longitudinally. Sarcolema has not been detected in them and the transverse striar characterstic of the other class of muscular fibres are wanting. They are made up of granules arranged without any order, but sometimes these granules seem to be arranged with a certain degree of regularity, thus making an approach to the other class.

These fibres form one of the coats of the alimentary canal. They commence from the lower half of the esophagus and extend down to the termination of the rectum. They also form the muscular coat of the uterus and the bladder. They also enter into the formation of the membranous portion of the trachea and bronchi and are found in the ramification of the bronchia as far as they can be opened. They also form a part of the walls of the larger ducts of secreting glands as well as their deverticula. They occur in the dartos of the scrotum, and in the middle coat of the middle and smaller sized arteries. Contractile elongated cells which is a form of unstriped muscular fibres have been recently detected by Mr. Rolleker in the cutis vera of the skin, underneath the mucous membrane of the vagina—in the hair follicles—in the finest trabaculi of the spleen and in the ducts of sebacious follicles

3rd. Answer.—The graffian vesicles consist of most externally a vascular layer, next a fibrous layer, and within this is a granular layer called the membrana granulosa. Within these layers there is an albuminous granular fluid, containing a neuclated vesicle called the ovum. The ovum while immature lies in the centre of the graffian vesicle but when matured, it rises to the surface of the granular contents and becomes enclosed by the cells of the membrana granulosa. This agglomeration of the cells of the membra granulosa round the ovum is called the discus proligerus.

The ovum consists of a transparent homogeneous membrane enclosing a fluid substance of more or less density. The membrane is called the zona pellucida or the vitelline membrane and the fluid contents has received the name of vitellus or yelk. The yelk consists of granules and globules immerged in a substance which is fluid in the lower animal but semisolid in the human female.

Imbedded in the substance of the yelk lies a neucleated cell called the germinal vesicle. It contains a clear spot which may be its neuclei, called the germinal spot.

The germinal vesicle at first lies imbedded in the substance of the yelk but as the ovum gets matured it rises to the surface and applies itself to that part of the zona pellucida which is nearer the surface of the graffian vesicle.

4th Answer.—The gustatory branch of the inferior maxillary nerve is a nerve of common sensation as well as a nerve for the special sense of taste. It supplies the anterior and the lateral parts of the tongue and imparts common sensibility as well as the sense of taste to these parts. The gustatory function of this branch has been denied by some, but at

present there is no doubt about the matter. It is abundantly proved by experiment as well as clinical observation.

The inferior dental branch is a compound nerve. Those filaments which go to the pulp of the teeth are purely sensory in their function. The mental branch is also sensory and imparts muscular sense to the parts it is distributed.

The mylohiod branch of this branch of the inferior maxillary nerve is a compound nerve and supplies the mylohiod and the anterior belly of the digastric muscle with muscular sense and motor power. The auriculo temporal branch of this nerve is purely sensory and imparts common sensibility to the parts it is distributed. It gives no filament to muscles and therefore contains no motor fibres.

The buccal branch is also sensory and imparts muscular sense to the buccinator muscle and to the other muscles it is distributed. The buccinator muscle receives its motor filaments from the facial nerve and not from this branch.

The remaining branches of the inferior maxillary nerve are compound nerves—imparting motor power as well as muscular sense to the muscles of mastication. That the motor power of these muscles is due to these branches not to the *facial nerve*, is proved by their not becoming paralized when the facial nerve is diseased or destroyed. That these muscles also owe their muscular sense to the branches of the inferior maxillary nerve, not to the other branches of the 5th nerve is proved by the fact that the last mentioned branches do not give filaments to these muscles.

5th Answer.—The agents engaged in the function of absorption are the *lacteals*—the lymphatics and the blood vessels. The seats where this function is carried on are the external surface of the body—the internal surfaces communicating with the exterior and the interior of the organs and the tissues of the animals.

The absorption by the lacteal vessels and the lymphatics are vital processes, while that by the blood vessels is a physical one carried on under the influence of known physical laws. That the lacteal and lymphatic absorptions are vital processes is too well established to need facts to prove the truth of this assertion. The lacteals take the nutritious part of the food or the chyle from the small intestine. They reject every thing that is not capable of being organized. They seem to exercise a choice in the selection of materials they absorb. The mode in which the passage of chyle to the lacteals is effected may be thus expressed. The chyle is taken by the columnar particles on the villi of the intestine. It then makes its way into the interior of the villi by passing through the basement membrane. There it is converted into neucleated cells. These neucleated cells elaborate the chyle and after their maturity they burst and discharge their contents, which subsequently gets into the interior of the lacteal vessels, by passing through its thin parieties.

The absorption by the lymphatics is also a vital process. They absorb the superabundance of the nutritive materials poured forth for the nutrition of the tissues. They also take those portions of disintegrated tissues which are capable of being organized and made subservient to the purposes of nutrition.

The absorption by blood vessels—(the capillaries and small veins being the parts meant by blood vessels) is as before stated a physical act and performed under physical laws. The blood vessels take every thing

either nutritive or poisonous that is offered to them. The object principally served by the absorption by blood vessels is the absorption of deliterious substances resulting from the disintegration of tissues, and their conveyance to the different excretory organs for the purpose of their elemination.

The forces engaged in this action are as before said of a physical nature. Here the influence of imbibition—endosmose and capillary attraction comes to play, and effects the introduction of matters from without to within the blood vessels.

MOHESH CHUNDER GHOSE.

BOTANY.

1*st Answer.*—In structure, a leaf consists of the ramification of fibro-vascular bundles with parenchyma between them and the whole covered by epidermis. Counting the structure of a leaf from above downwards or in other words from the upper to the lower surface, we have first a layer of epidermis, next a layer or two of cells differing in form and arrangement from those which form the next lower layer or layers. In this parenchyma we have the fibro-vascular bundles distributed. Lastly we have the epidermis of the lower surface.

The epidermis of the upper surface is hard, glistening and devoid in general of hairs and stomata. It may sometimes present stomata, but the number of these is very inconsiderable.

The lower epidermis is thin and abundantally supplied with hairs and stomata.

The layer of cells next the upper epidermis presents no lacunae or meate of any kind. The cells which form it have a regular outline. They are closely applied to each other, and are elongated in figure with the long diameter perpendicular to the surface of the leaf.

The cells forming the lower layer or layers of parenchyma have irregular outline. They send processes from their sides which joining with each other form a spongy texture, whence the name *cavernous* given to these layers. The meate thus formed communicate with each other and with the stomata. Moreover the cells of this layer are elongated parallelly with the surface of the leaf. Both the cells of this as well as of the layer before described contain chlorophyle granules which impart to them a green colour. In some very succulent leaves there is a layer of cells which do not contain chlorophyle, placed between the layers before described, and thus dividing the parenchyma of the leaf in three layers.

The fibro vascular bundles of a leaf consist of spiral vessels, woody fibres, laticiferous vessels and fibres corresponding with liber fibres. The structure we have given applies to an aerian leaf, but not to a leaf that is submerged.

Submerged leaves have no system of fibro vascular tissue. They are made wholly of parenchyma, in which some cells may be elongated and condensed so as to put the appearance of fibro vascular tissue. The epidermis covering them does not differ from the adjacent cells, so that it may be said that they have no epidermis.

2*nd Answer.*—A flower is said to be papilionaceous when the petals present the peculiar arrangement just now to be mentioned. In this,

one petal which is superior in the flower, attains a remarkable development, and exceeds the others in size. It is therefore called the *vexillum* or standard. The two lateral ones are small and are called the *alæ*. The inferior petal is the result of the union of two distinct petals and is called the *carina*. It envelopes the essential organs. The union between the two inferior petals which form the carina is not complete, but is deficient at the base.

3rd Answer.—Placenta is formed at the margin of the folded carpillary leaves. When the dissepiments formed by the union of the edges of the carpels and which bear the placenta do not reach the central axis of the ovary the placentation is called *marginal* or *paintals*. When the dissepiments reach the axis, the placenta is united with the axis, if it is prolonged beyond the carpels, or at the axis if it not prolonged, thus constituting what is called the central placentation. In this the dissepiments may remain persistent, or they may be absorbed leaving the placenta at the centre. In all cases when they are absorbed they leave some trace to enable an examiner to trace the formation of the placenta.

In some cases however there is central placentation, but without any trace of the dissepiments once extended to the central axis and then becoming absorbed. In this the placentation is central from the very beginning. When thus circumstanced the placentation is said to be *free central* in contradistinction to the *central* placentation we have before described. Besides these usual modes of placentation, there are some others which, though rare, require to be cursorily alluded to.

Thus placenta has been known to be attached to the mid rib of the carpellary leaf. It has also been seen to be disposed in radiating lines to the inner surface of the carpels. Finally it has been seen to occupy the whole of the inner surface of the ovary.

4th Answer.—The simplest condition in which an ovulum presents itself is that of a cellular nipple, the apex of which is hollowed into a cavity containing a mucilaginous fluid. The cavity is called the embryonary cavity and the contained fluid is the *amnion* in which the embryo is to be developed. The cellular nipple containing the cavity is called the neucleus, which thus we see is the most important and essential part in the structure of an ovulum, the other parts being superadded to serve secondary purposes. Thus there may be two coverings developed external to the neucleus, and one or two internal to it.

A perfect ovulum therefore consists of 5 coats surrounding a cavity containing, as before said, a mucilaginous fluid. These coats counting from without inwards are named the primine, the secundine, the tercine (which corresponds with the neucleus,) the quartine, and the quintine. The quintine immediately lines the embryonary cavity and is therefore called the embryosac. The quartine is a fugacious covering, which is rarely present and which when present serves only a temporary purpose and then disappears, so that in reality a perfect ovulum may be said to have four coats only instead of five.

The primine and the secundine do not form perfect investments to the nucleus. Both are deficient at the apex and thus leave a canal through which the hollow tube makes its way in the act of fecundation. The opening in the primine is called the exostome and that in the secundine the endostome.

5th Answer.—By the term *genus* is meant a collection of species allied to and agreeing with each other, more than they do with any other species of plants.

6th Answer.—In the calicifloræ the stemens are said to be perigenous when the calyx is free from adhesion with the ovary. In this case the ovary is superior and the calyx inferior.

The stemens in a caliciflorous flower are said to be epigenous when the calicinal foleoles are in adhesion with the ovarium, which appear to be inferior and the stemens arising from it.

7th Answer.—These two orders are distinguished both by positive and negative characters.

In the orchidaœ the stemens and the pistels are united together in in one column called *columna.* The stigma is placed upon a depressed portion of the columna called gynozus. Of the three stemen which ought to be have been developed two are arrested in development, and their abortion has contributed to the development of what is called the labellum or the lip. The anther of the remaining stemen which is the only one that is developed is placed on the top of the columna. The pollen grains are aggregated into two masses called pollina. From each of these a process called caudicule is sent down which is attached to a process of the anther called Roselellum by means of a vicid matter called retinacula.

In the scitamineœ we have two of the three stemens suppressed, and only one developed. Of this one, one anther lobe is developed and contains the pollen, while the other is converted into a petaloid appendage.

8th Answer.—The tamarind is a *lomentum* in structure, but it does not dehisce to scatter its seeds.

The jamrool is a berry or more properly an uva in as much as it has not the calyx adherent to it.

The cala is a berry in which the placenta is very much developed.

The custard apple is pome, that is to say, an indehiscent syncarpous fruit in which the *calyx is adherent*, and the seeds enclosed in cases formed by the endocarp.

The mulberry is a sorfosis in the ordinary sense of the term. It resembles the fruit of the strawberry and raspberry, but differs from them in being the product of several flowers.

MOHESH CHUNDER GHOSE.

CHEMISTRY.

Question 1st.—What is Soda, how is it procured, what are its tests, and its most important saline compounds ?

Soda is the oxide of sodium a metal, which exists very abundantly in nature ; in sea water, as chloride ; and in soils as carbonate, sulphate and nitrate. Also in sea weed and land plants growing near the sea. It is the product of the oxidation of sodium in air or oxygen. It may be obtained as a hydrate, by adding hydrate of baryta to sulphate of soda ; so as to neutralise the sulphuric acid and evaporating the supernatant liquor to dryness ; or by adding hydrate of lime, to a boiling solution of carbonate of soda, in small quantities, syphoning off

the supernatant liquor and evaporating rapidly to dryness in a silver or platinum vessel.

The following equations explain the decompositions in the first $Na\ O,\ SO_3 + BaO\ HO = BaO\ SO_3 + NaO\ HO$ and 2nd $NaO,\ CO_2 + Ca\ O,\ HO = Na\ O,\ HO + Ca\ O,\ CO_2$. In its properties soda very much resembles potassa but it is quite indifferent to the tests for that oxide; fluosilocic acid gives a gelatinous precipitate in solutions of soda, but the only positive test for soda is the blowpipe-test—it colors the flame yellow.

The most important saline compounds of soda are, the chloride, sulphate, carbonate and bicarbonate, nitrate, acetate and tartrate

Question 2nd.—What is the lactic fermentation, how is it excited and what are its results?

The lactic fermentation, is the production of lactic acid in a saccharine solution; it is excited by the presence of caseine, in a state of decomposition or by the addition of rennet, an infusion of the stomach of a young calf. The results of the process are, the disappearance of sugar from the solution and production of lactic acid.

Question 3rd.—What is Silicic acid, what are the different states in which it exists, and what are its most important combinations?

Silicic acid or *Silica* is the oxide of the metal siliceum; it exists in nature pure or almost so as quarts, flint and white sand; as a hydrate, dissolved in the water of many springs; and in combination with lime and alumina; and colored with oxides of some metals as the ruby &c., the most important combinations of silica are, the basic silicates of soda and potassa, which is glass, silicate of soda is a harder glass than silicate of potassa. Silica forms an acid with Fluorine, $Si\ F_3$, which is used in chemistry to separate potassa form its compound with some acid, as the iodic. It is very corrosive, with water it produces hydrofluosilicic acid.

4th.—What are albumen, fibrine and caseine and their tests, and what are the analogous vegetable substances?

Albumen, caseine and fibrine are called proteinee compounds: in the animal kingdom, they exist in the blood, milk and in muscle &c. Albumen exists in blood in which it is held in solution by its salts viz. chloride of sodium and phosphate of soda, &c. it is the white of the egg and is also in the vitreous humor of the eye in small proportion, dissolved.

Albumen is coagulated by a heat $= 150^0$ F and by nitrate of silver, bichloride of mercury, creosote and alcohol. When coagulated it is translucent and insoluble.

Fibrine forms the chief part of the substance of muscle, it also exists in blood: it possesses the very remarkable property, of coagulating by rest; the clot of blood is fibrine including the blood globules. It absorbs oxygen from the air on exposure to it. The fibrine of arterial blood differs from that of venous blood and muscle in not being held in solution by nitre or sulphate of potash.

Caseine exists in milk: by the presence of an acid it is coagulated, the curd of milk is the caseine coagulated by the lactic acid formed in the milk, heat promotes the action of acids on caseine but when heated alone only a pellicle forms on the surface acetic acid coagulates caseine The vegetable substances analogus to albumen, fibrine and caseine are vegetable albumen, gluten and legumine.

5th.—What are the compounds of sulphur and oxygen and their properties ?

The compounds of sulphur and oxygen are hyposulphurous acid $S_2 O_2$, sulphurous acid SO_2 hyposulphuric acid $S O_5$ sulphuric acid SO_3 and sulphuretted hyposulphuric and bisulphuretted hyposulphuric acid.

a. $S_2 O_2$ has not been isolated.

b. SO_2 the product of the combustion of sulphur in air or oxygen is colorless, has a very suffocating smell, is compressible to a liquid state, absorbed by water, detonates with hydrogen producing water and depositing sulphur, e. g. $SO_2 + 2 H = 2 HO + S$, it forms salts with bases.

c. $S_2 O_5$ is unimportant it does not precipitate baryta.

d. SO_3. Anhydrous sulphuric acid is a solid ; it does not possess acid properties—nor form salts with bases, its affinity for water is very intense, thrown into water, it produces great heat and causes a hissing noise.

Hydrated sulphuric acid is the most important of the compounds of sulphur with oxygen. It is an oily looking colorless fluid, nearly twice as heavy as water its specific gravity being 1·845—it has a strong affinity for water, in combining with which, it produces heat and the product of the combination, is found of smaller bulk than the sum of the ingredients used; it chars organic matter, by abstracting water or its elements from it; it has a strong affinity for bases; in contact with some metals and water, it causes decomposition of the water; hydrogen being given off and the oxygen, going to the metal with which the sulphuric acid combines; it becomes solid at 40′ F. and at 600° distills. Exposed to moist air, it absorbs moisture increasing in bulk to the extent of one-third of its bulk in 24 hours: with bases it forms salts. The other acids, that of Langlois and of Forrdes and Geles are of no importance.

6. The only compound of sulphur and hydrogen is sulphuretted hydrogen or hydro-sulphuric acid—it is a colorless gas, has a very disagreeable smell; is highly poisonous, causing stupor and headache when breathed even a very dilate state; it burns with a bluish flame producing sulphurous acid and water, it is absorbed by water, giving to it, its smell ; its reaction on litmus paper is slightly acid. With metallic oxides it produces sulphuret of the metal and water. It throws down the sulphurets of many metals of peculiar and characteristic colors. With iron, nickel cobalt and manganese salts it produces no precipitates. The following are some of its most remarkable precepitates.

Arsenic, ...	Yellow.
Zinc, ...	White.
Copper, ...	Brownish black.
Lead, ...	Black.
Antimony, ...	Orange.
Tin-benoxide, ...	Dirty yellow.
Tin-proloxide, ...	Black.

With ammonia, hydrosulphuric acid forms a compound which is much used as a test. The hydrosulphuret of ammonia, throws down precipitate in solution of those metals, which are not affected by hydrosulphuric acid ; with manganese, it produces a very characteristic flesh colored

precepitate ; and it produces precepitates with iron, cobalt and nickel, which are not affected by H. S. these however, are not characteristic.

R. W. Harrison.

MATERIA MEDICA.

Answer to 1st Question.—Iodine is obtained from sea weed; the ashes of which, are also a source of soda: after the salts have been crystallized out of the lixivium of kelp, the mother liquor is heated with sulphuric acid and peroxide of manganese, and distilled. The iodide, exists in the liquor as iodide of sodium, magnesium or of potassium, and the following is the change which takes place in its preparation.— $KJ + Mn\ O^2 + SO^3\ HO = Mn\ O\ SO^3 + KO\ SO^3 + I$.

Iodine is of a steel grey color ; generally seen in scales, which have a metallic lustre ;—its odor is somewhat like that of very dilute chlorine ; it gives off a very beautiful purple vapor when heated, and is also vaporized at natural temperatures ; it is very insoluble in water, One pound dissolving only one grain of Iodine ; it is more soluble in alcohol and ether and in solution of iodide of potassium.

Starch is the most delicate test for iodine ; added to a solution containing only $\frac{1}{4000}$th gr. of iodine, it renders the solution perceptibly blue ; a piece of moist starched paper is also blued by exposure to the vapor of iodine. In a combined state, iodine is not affected by starch, it must be reduced before the blue color will appear ; that is best effected by inclining, over the liquid to be tested, a bottle of chlorine water chlorine having a stronger affinity for bases than iodine, sets it free.

In small doses, iodine causes increased secretion of urine, and the diminution of glandular enlargements and tumors, without producing any other obvious effect. Long continued use however, produces a peculiar state of the system, called iodism, which is characterised by vomitting, purging, headache, nausea, debility, and extreme emaciation. Iodine has also the power of causing absorbtion of the testes and mammæ when its use is continued long. Large doses, produce gastro-intestinal inflammation. The most remarkable property of iodine is, its power of curing bronchocele or goitre ; for this disease it is a specific, but not in every form of it : soft enlargements of the thyroid body yield to it sooner than hard ones.

Uncombined, iodine is seldom used in medicine ; but combined with potassium, with which it forms its principal compound, it is very extensively used. Iodine is used as a resolvent, in glandular enlargements and tumors. The iodide of potassium is a valuable antisyphilitic and alterative, and is much used in combination with Decoct : Sarzœ Co : in secondary syphilis and rheumatism.

Iodine is applied externally, in the form of tincture and ointment to enlarged glands, tumors, and swollen joints, caused by rheumatism. The iodide of mercury is a useful preparation for syphilis in scrofulous persons. The principal compounds in medicine of iodine are iodidium potassii, hydrargyri iodidium, hydrargyii binodidum, tinctura iodinii, tinct: iodinii comp: unguent iodinii, unguentum plumbi iodidi.

Answer to Question 2nd.—The effects produced by the continued exposure to lead in any form, are lead colic; lead palsy ; and saturnine encephalopathy.

When the system has been exposed to the action of lead for a long time, or if the susceptibility to the action of lead, be great—the following symptoms appear: At first, that is diminished secretion, the pulse becomes small and slow; there is constipation of the bowels; diminished appetite and temperature of the body; colicy pains; and what is most constant, and the best indication of the constitutional effects of lead,—a fine blue line at the margin of the gums. Saturnine colic is known by the following symptoms, constant pain in the abdomen, increasing at intervals; hardness of the abdominal parieties and sinking or retraction about the umbilicus; constipated bowels; loss of appetite, diminished temperature of the body and slow and small pulse, from diminution in size of the arteries. The pain in the abdomen, is relieved by pressure. Lead palsy, is paralysis of the extensor muscles of the extremities: it most commonly occurs in the upper, when the hand is found drooping. Either the function of sensation or of motion may be paralysed, or both. Lead causes pain in the extremities which is relieved by pressure and is not felt in the course of the nerves.

All the preparations of lead have, more or less, the power of producing the above effects, by continued use; but the carbonate acts most speedily. Exposure to the action of lead in a vaporous form also produces lead colic and people working in lead, who are always in contact with it, are very subject to it.

Saturnine encephalopathy is disturbance of one or more of tho cerebral functions, produced by the action of lead. It occurs in four forms, 1st coma, 2nd delirium, 3rd convulsions and 4th a mixture of the three. The delirium may be rather tranquil or violent: and the convulsions epileptiform or calaleptiform.

Answer to Question 3rd.—Strychnia is the active principle of the strychnos vomica; it also exists in St. Ignatius's bean and in strychnas tieate and other species of strychnos.

Strychnia excites the irritability of the cerebral spinal, or excito-motory system. Given in very small doses, it produces no obvious effects on the system; if any, it acts apparently as a tonic, producing increase of appetite. When it is given in full doses for some time, the second degree (according to Dr. Pereira) of its operation is brought on. This is characterized by increased irritability of the muscular system and increased sensibility to external impressions, as light, sound feeling, and change of temperature, and there is stiffness of the limbs with inability to maintain the erect posture for any time. A slight tap on the hamstrings causes a peculiar convulsive state of the muscles of the limb: this is a very characteristic symptom of the action of strychnia on the constitution. If the use of the medicine be persevered in, the convulsions become very frequent, occurring from very slight causes, as turning in bed, &c. and at last they occur without any apparent cause.

Poisonous doses produce violent convulsions which commence at the extremities—then, affect the muscles of respiration and lastly the diaphragm which causes death.

The principal use of strychnia which is the only remedy that can be relied on in the disease, is in paralysis. Partial paralysis or paraplegia, is what it it most efficacious in, hemiplegia is not so often relieved by the use of strychnia as paraplegia because, it is most frequently caused by effusion into the substance of the brain and supervenes on apoplexy. Now, removal of pressure in the brain is the only thing that will cure

the paralysis in such cases. Nature effects this in time; but art can give no assistance and strychnine in such cases is positively injurious. But when the cause is removed, which does take place by absorbtion of the effused blood, the paralysed limb remains paralysed, as if from loss of habit in these cases, strychnia is indicated. Strychnia is more useful in paralysis from functional than from structural disorder. In paralysis shychnia causes twitching motion of the paralysed muscles.

Amaurosis has been cured by it. In this disease, flashes of light appear before the eyes, during the use of strychnia; these flashes are of different colors, the red colored flashes are considered the best symptom.

Lead Palsey has been cured by strychnia, and also the trembling produced by continued habits of drunkenness. In the former it is a useful remedy.

The dose of strychnia is from 1-16th or 1-12th, to a quarter of grain. Very *cautiously* increased.

Answer to Question 4th.—The most prominent symptom in the effects produced by aconite, is paralysis of sensation; a small quantity taken into the mouth causes, at first burning, and then numbness—the tongue and teeth appear very large; and there is a constant effort to swallow. Convulsions and coma are not constant though they may be present. The intellect is clear to the last.

R. W. Harrison.

MIDWIFERY.

I. The varieties of dysmenorrhœa are the *neuralgic*, *inflammatory* and *mechanical.*

(2.) *Neuralgic dysmenorrhœa* is marked by uneasiness, a sense of coldness in the lower part of the abdomen, or a pain extending from the back of the sacrum, to the front of the loins: this pain, which peculiarly characterizes the disease does not disappear on the commencement of the flow or in the second day, as in the inflammatory variety. There is no fever generally, and the constitution does not suffer much during the interval. Very commonly neuralgic dysmenorrhœa is attended with discharge of membranous moulds of the cavity of the uterus, formed by a plastic exudation in the cavity.

Treatment. There are two indications to fulfil in the treatment of this variety; (1st.) to relieve the pain during flow of menses and (2nd.) to prevent its return—(1) the pain is releived by anodynes such opium and its preparations and hyosciamus,—(2) during the interval the treatment should of a tonic kind, and counter irritants to the sacrum, such as blisters, repeated or discharging, are of great value.

(2.) *Inflammatory dysmenorrhœa* is characterized by rigors, feverishness, heat of skin, flushed contenance, pain in the hypogastrium, which in some cases is very severe, diminished flow of catamenia, especially in the beginning, and other derangements indicative of constitutional suffering: this variety of the disease arises from plethora, and occurs more in the young married females especially of luxurious with sedentary habits. The state of pulse in these cases indicates, particularly before the monthly period, a hyperæmic state.

Treatment.—Bleeding either local such as leeching, cupping over sacrum and scarification of the os or cervix and general, affords great

relief. It is followed, or in many instances preceded, by warm hip bath, administration of diaphoretics and saline purgatives, with low diet. During the interval treatment is principally hygenic, such as exercise in open air, occasional warm baths non-stimulating diet, bowels to be kept regular by occasional purgatives.

(5.) *Mechanical Dysmenorrhœa* arises as its name implies from some obstruction either in the vagina or uterus, to the flow of the menstrual discharge. It is accompanied with a scanty discharge, pain in the region of the uterus, with a sense of weight fulness, or tension. Examination with the fingers discovers the situation and extent of the obstruction, which may arise from stricture of the vagina, adhesion of the sides causing occlusion, and disease of the os and cervix uteri.

Treatment, should be directed to the removal of the cause, by manual instrumental (such as the use of the knife) if necessary and to some extent, medicinal.

II. The *object* of this operation is two-fold, first, to convert a dangerous presentation to one *less* so, and second to terminate a complicate labour safely; in the first I allude to versions in malpresentations, such as shoulder or arm presentation, and in the second, this operation, in placenta prœvia, is well exemplied—I need not say that the *prime* object of version is the safety of the mother with that of the *child.*

The *conditions* most favorable for this operation are 1 non-discharge of the liq. amnii. by rupture of the membranes, (2) dilutation or in urgent cases, even dilutability of the os uteri (3) absence of inflammation of the passages, and (4) non-appearance of the symptoms of extreme exhaustion or collapse; the last cause offers a serious barrier to this operation in advanced cases of hœmorrhage from placenta prœvia.

The *means* that are adopted to facilitate the operation are bleeding, adminstration of opium, tartar emetic, &c. These remedies are had recourse to in cases of rigity of the os and cervix from irritation of the head, rigid contraction of the uterus upon the body of the child after the discharge of liq. amnii, and inflammation of the passages and to some extent, even of the uterus.

III. Peurperal convulsions are divided by Dr. Murphy into three varieties, namely sthenic or hyperæmic, asthenic or anæmic, and hysterical: each of these varieties is characterized by its symptoms and also by the mode of treatment.

(*a*) *Sthenic or hyperæmic* convulsions are the most common and may occur before or during labour, or after delivery. They occur to plethoric females, who are not unfrequently troubled by premonitary symptoms, such as throbbing of the temples, flushed countenance, vertigo, giddiness and fulness of pulse. When these convulsions occur the body becomes fixed, the complexion of the face livid, eyes rolling or dragged upwards, nostrils dilate, and respiration suspended; this stage is immediately followed by one more terrible, when the countenance becomes hideous, face distorted, eyes injected and starting as if the person has been strangled, and a deep insperation, followed by hissing respiration is a very prominent feature in this variety of the disease. In this stage there is full succussion of the muscles of the trunk and extremities, and the severity of the convulsions is such that the whole bed. and in some rare cases even the floor, shakes. This stage is followed by that of coma, which passes off after sometime and the patient gradually comes to her former state. But sometimes these convulsions become complicated

with apoplexy, rendering the disease extremely dangerous. The convulsions may last 2 or 3 minutes, but recur within a short time. During these convulsions, and even in the stage of coma, the progress of the labour is not checked. This variety of convulsions resembles epilepsy in many points, so the diagnosis is important. Sthenic convulsions are distinguished from epilepsy, (1) by the absence of the *aura epileptica*, (2) by the presence of a peculiar hissing respiration, (3) by quick recurrence of the fits, and (4) by their generally fatal termination.

Asthenic or Anæmic convulsions are totally different from the former variety. They occur generally in the last stages of uterine hæmorrhage, but not unfrequently in the weak and debilitated after a loss of only a few ounces of blood or no loss of blood at all. These convulsions are characterized by symptoms of depression and irritability, such as sallow countenance, cold skin, profuse perspiration, great restlessness, irregular hut convulsive actions of the muscles of extremities and trunk, quick but small and feeble pulse; the stage of coma in this variety is not always temporary.

Hysterical convulsions occur in females who are subject to hysteria. Tbis class of patients show great impatience when labour occurs; they are fearful restless and desponding, and this mental agitation brings on a fit of hysteria in any stage of labour. These convulsions are announced like true hysteria, from which it no way differs, by a sense of weight in the epigastrium and a morbid sensation of a ball rising upwards, technically called the *globus hystericus*. These convulsions are characterized by the absence of complete insensenbility and coma, by the suspension of the progress of labour during the fit, and by their very seldom proving fatal.

Causes of these convulsions may be conveniently divided into centric and eccentric.

Centric—The centric causes of this disease are those which, acting through the circulatory and nervous systems produce a susceptibility to this affection. These are—

(1.) *General plethora* is not necessarily productive of convulsions in the peurperal state; but when this condition is conjoined with an erethism or augmented excitability of the spinal system, convulsions occur from a very trivial cause.

(2.) *Anæmia*, as already noticed, produces convulsions. Deficent quantity, as well as bad quality of the circulating fluid can cause convulsions, the former is instanced in cases of extreme hœmorrhage, the latter in the occurrence of this disease, more frequently in the ill-fed and poorer part of the population.

Eccentric causes may be situated in any of the viscera. (1.) *Uterine irritation*, in patients predisposed to it generally acts as a principal cause. In this case convulsions occur either in the advanced stage of labour or after delivery. (2.) *Gastric irritation* sometimes produces convulsions in the plethoric. A hearty meal has occasionally caused this disease in a pregnant woman. I may here once for all notice, that convulsions occuring from irritation of other organs but uterus, generally appear either before labour or just at the very commencement and are very dangerous (3.) *Intestinal irritation.* Existence of hard fœcal matter in the large intestines may produce convulsions in the predisposed.

I may here mention that great discussions have taken place and great difference of opinion still exists relating to the causes of this disease,

and particularly the influence of the uterus in the production of it, has been variously estimated. I had time merely to allude to uterine irritation as a cause of convulsion.

Treatment.—In the *sthenic variety* it is of an antiphlogistic character, consisting in bleeding, administration of calomel, followed by purgatives, and exhibition of tartar emetic in nauseating doses. This treatment is commenced after the fit, but during it, the great indication in all varieties of convulsions is to save the patient from injuring herself (but this should be fulfilled without using much restraint on the patient,) and also to cut short the fit by dashing cold water on the face. But should the child be delivered by artificial interference? Generally speaking and as a rule the delivery should be left to nature, but when the head is at the out-let, and pelvis roomy, forceps might be used; but in no case should the operation of *version* should be had recourse to, in convulsions.

Asthenic convulsions are treated in an exactly the reverse plan; stimulants with opium and nourishing diet are the chief means. Artificial delivery in this variety of convulsions is more dangerous than in the former. *Hysterical convulsions* are treated by antispasmodics, such as ether, assafœtida, and valerian, and tonics. Purgatives and dashing of cold water are also of service in this variety.

IV. The symptoms of a general rupture of the uterus set in suddenly They are a feeling of snapping (in some cases,) sudden pain in the abdomen, change of shape of the uterine tumous, and if the child has passed into the abdomen it can be felt there; small quick pulse, great depression of the system with pale countenance. The great points in the treatment of such cases are the delivery of the child, checking of internal hœmorrhage, and to relieve inflammatory action. I have no time to detail particularly the means of treating such cases.

NILMADHUB MOOKERJEE.

MEDICAL JURISPRUDENCE.

Answer to Question 1st. SYMPTOMS.—An acrid and metallic taste is perceived in the mouth; a sense of constriction is felt in the pharynx; frequent eructations occur which are of a coppery character; there is nausea, vomiting, generally very severe; the matters ejected from the stomach are usually coloured, either green or blue, severe, burning pain is complained of in the epigastric region and over the abdomen generally. There is great thirst, anxiety of countenance, a dry and parched state of the tongue. Associated with these symptoms, there is diarrhœa which is at time exceedingly violent; the stools are often dark coloured, mixed with a large quantity of blood and passed with tenesmus. There is a quick and irregular pulse, small and hard; a tympanitic state of the abdomen often supervenes; faintness, at times passing into complete syncope often occurs. The extremities become affected with spasms. Various cerebral symptoms attend the last stage; cold sweats break out over the whole surface of the body; the secretion of the urine is scanty; vertigo, cephalalgia with general convulsions close the scene.

Treatment.—Sulphate of copper being a violent emetic ; it would be unnecessary to employ any emetic to dislodge the poison. The vomiting that does exist should be promoted by large draughts warm water or milk, or any other diluent. Large quantities of albumen, *i. e.* the white of egg should be administered ; this will cause the albuminate of copper to be in the stomach, which is comparatively inert. Iron filings have been recommended by some as an antidote, its efficacy appears to be doubtful. Sugar has also been recommended and employed ; it is supposed to form an insoluble red-oxide.

I believe it is not advisable in cases of poisoning by corrosive substances to employ the stomach pump, as the latter is very likely to produce perforation of the coats of the stomach from their being quite attenuated by the corrosive nature of the poison ; it is therefore contra-indicated in the treatment.

Inflammatory and other symptoms may be mitigated by appropriate remedies.

Tests for Sulphate of Copper.—A solution of sulphate of copper can be easily recognized, first by its colour, which is blue.

Test 1*st.* It gives with a solution of ammonia a blueish white precipitate, soluble in an excess of the alkali, turning to a violet blue.

Test 2*nd.* Ferro-cyanide of potash gives a rich claret precipitate when there is a large quantity of the copper present, but if small, I believe it will be of a reddish brown.

Test 3*rd.* Hydro-sulphuret of ammonia, and also sulphureted hydrogen gas, will give a deep brown colour to a solution of copper.

Test 4*th.* If a small quantity of the solution be placed on piece of platina foil, and this be aciderated with a dilute acid, and a piece of zinc made to touch the platina through the medium of the solution. metallic copper is seen deposited on the platina, it can be recognized immediately by its well known colour.

Test 5*th.* If a slip of polished iron be immersed in a vessel containing a solution of the sulphate of copper ; a grey coating of copper will be found to cover it after a short time.

Post-mortem appearances of poisoning by copper :—Redness of the mouth, fauces, pharynx, and sophagus, with the formation perhaps of small superficial sloughs over this tract of mucous membrane, also more or less marks of inflammation at different points.

The mucous membrane of the stomach will be found covered with a greenish coloured mucous, there is redness throughout, but varying in shade at different points, deep red looking ecchymosed points are scattered over the membrane. The coats of the stomach are in some situations thick, the mucous membrane in such places is soft often preventing the appearances of active inflamation. The coats again are observed quite attenuated in some points ; this is due to the highly corrosive action of poison ; the whole living membrane is often seen detached. Ulceration and even perforation of the coats are not unfrequent results of the action of this substance. The duodeum and rest of the intestines often prevent marks of inflamation, their lining membrane is seen congested and softened.

Question 2*nd.*—What treatment would you adopt in poisoning by nitrate of silver ?

Answer.—I would administer frequent and large draughts of warm water, or any other diluent. Administer table salt or chloride of sodium

in tea spoonfuls every half hour. Support the general state of the system when necessary, and where the pain is complained of as excruciating, I would give small quantities of opium in the form of an enema; this would in a great measure relieve the patient. Emetics are contra-indicated in the treatment for reasons that must be obvious.

Answer 3rd.—The post mortem appearances observed in cases of poisoning by corrosive sublimate are slight redness of the pharynx and osophagus. The mucous membrane of the stomach presents marks of various degrees of inflamation, it is softened in some situations at at different points on its surface deeply red ecchymoses, portions of the lining membrane to a greater or less extent, are seen detatched from the subjacent textures. Ulceration implicating one or more of the coats of the stomach will be often seen; perforation has been frequently met with; signs of recent gastro-enteritic inflamation may exist throughout the intestines.

Answer to the 4th Question.—The characteristic post-mortem appearances in a body bit by a snake are to be chiefly looked for on its external parts.

The skin may present livid discolourations in different portions of the body or throughout. Putrefaction usually is rapid.

The most important signs are to be seen perhaps in the part that has been bitten. The wound is found to look unhealthy and to be covered with a fœtid ill-looking discharge. The integument around it is generaliy inflamed. The wound if it had reached the suppurative stage before death will be covered with purulent matter; not unfrequently a gangrenous state of bitten part is observed, extending in some instances up the whole limb. Another post-mortem appearance is an inflamatory condition of the lymphatics in the neighbourhood of the bitten part, shown by the red streaks on the skin along the course of the lymphatics.

In the internal organs, we generally find a state of congestion. There may be effusion in the ventricles of the brain, particularly when cerebral symptoms have preceded death.

Question 5th.—Describe the tests for arsenic? 1.—Arsenic is volatilized by heat on platina foil, it is insoluble both in hot and cold water on boiling it, and allowing the liquid to stand awhile it will be seen to float on the surface in a film. A portion of Arsenic when heated in a glass-tube will sublime, and will settle in octo-hædral crystals in the upper portion of the tube. When a small quantity of arsenic is placed in a watch glass with hydro-sulphuret of ammonia and heat applied it will be changed into a rich yellow the sequi-sulphuret; this is soluble in alkalies. A portion of arsenic heated with charcoal in a glass tube will become decomposed, and a ring of metallic arsenic will be formed near the mouth of the tube. Ammonio-sulphate of copper gives a green precipitate in a solution of arsenic, this is Scheele's green, it is insoluble potash and soda but soluble in mineral and vegetable acids.

Ammonia-nitrate of silver Test. This throws down a rich yellow precipitate the arsenite of silver, it is soluble in nitric acid, caustic ammonia and acetic acid. When sulphureted hydrogen gas is passed through a solution of arsenic contained in a proper vessel, which has been previously acidulated with muriatic acid, the sesqui-sulphuret of arsenic will be thrown down, this is insoluble in water, alcohol, mineral and vegetable acids.

Marsh's Test. This is performed by passing a current of hydrogen gas through a solution of arsenious acid contained in a proper receiver, the gas is allowed to escape through a tube fixed in the upper part of the vessel, if it be ignited by a taper, it burns with a yellowish white flame with a blueish hallo around it, if a piece of porcelain be applied to the flame, a deposit of metallic arsenic will take place, which may be proved to be so by the other tests already mentioned.

Reinsche's Test. This consists in introducing into a solution of arsenious acid previously acidulated with hydro-chloric acid, a few slips of bright copper, after a time metallic arsenic as a grey coating will be formed on the pieces of copper.

Answer 6th.—In treating a case of poisoning by lead, I would administer emetics, promote their effects by large draughts of warm water, clear out the bowels with a mild purge as ol. Ricini, employ emollient clysters, if there is much pain complained of, I would combine with the purgative opium.

If it's the acetate or sugar of lead that has been swallowed, vinegar and water must be freely administered. Stimulants if absolutely necessary.

Tests of Carbonate of Lead.—1st. If carbonate of lead be calcined with charcoal it will be reduced to a metallic state.

2nd. The hydro-sulphuret of ammonia and also sulphureted hydrogen gas produce a deep black precipitate.

3rd. When heated on platina it leaves a yellow residue on oxide, which is soluble in nitric acid.

Question 7th. Name the tests for tartar emetic. Tartar emetic is insoluble in alcohol, soluble in water when boiled with muriatic (or hydro-chloric acid) and slips of copper in a polished state be immerced in the solution a grey coating will be formed the latter. With hydro-sulphuret of ammonia tartar emetic gives a reddish brown. Marsh's test may be employed in the same manner as for arsenic the result is that on burning the gas which passes out from the tube, and applying a piece of porcelain to the flame a deep black stain is produced. When a solution of tartar emetic is heated on a plate of glass, after the epavoration, distinct tetra-hædral crystals will be formed.

Nitric acid throws down a white precipitate in a solution of tartar emetic, this is dissolved on the addition of some tartaric acid.

J. A. Foy.

SURGERY.

Mortification of a part may be produced by various causes and of these the first is inflammation. This may give rise to mortification when it is very intense, or if not intense occurring in a debilitated part, or by a mixture of these two circumstances.

(b.) Mechanical injury may produce mortification in a part either directly or indirectly; directly a part may at once be crushed and deprived of life, indirectly a part is injured and its vital power lessened, inflammation of an intense character is set up and mortification is the result.

(c.) Undue pressure on a part previously debilitated will give rise to inflammation and this will lead to mortification, the powers of the part not being able to overcome it.

(d.) Deprivation of Nervous Agency. This cause producing mortification is exemplified in injuries of the spine which produce paralysis of the lower extremities, and in this case the rates are apt to slough, as well as the skin over the trachanters; the cornea has sloughed after division of the 5th nerve.

(e.) Heat produces mortification in a part either directly or indirectly; directly it may char the part at once giving rise to an eschar, or indirectly it may destroy only a part, inflammation of a sthenic type is set up in a debilitated part and mortification is the result.

(f.) Cold may produce mortification either directly or indirectly, in the former case the whole body is benumbed by exposure to intense cold, and on increase of the temperature death is the result, or in the latter case the temperature of a part is very much reduced from severe cold, heat and friction are injudiciously applied and mortification thus results.

(g.) Pressure on blood vessels may produce mortification of a part either directly or indirectly; directly a tourniquet applied to a limb so tight as at once to cut off all the supply of blood and thus produce death of the limb, or indirectly pressure is applied so as to impede the circulation the first effect of this is to produce effusion of serum if still continued congestion is set up and if still farther continued inflammation is set up in a part already debilitated by loss of its due supply of blood and mortification is the result.

(h.) Arterial degeneration. This is the cause of mortification in the aged, in these persons the arterial coats become degenerated and hardened from calcareous deposit, the supply of arterial blood is thus gradually impeded and mortification is gradually produced.

Treatment. When mortification has set in the powers of the system are very low and must be supported, therefore stimulants are prescribed internally; quinine and opium ought also to be given, opium in full doses, and the system supported by nourishing diets, locally the putrid matters are let out by incisions, the lines of demarcation and separation appear; the surgeon must be ready to assist nature in her efforts to throw of the offending part.

As a general rule amputation should at once be performed in a case of traumatic gangrene, if the signs of mortification have not extended far. When the mortification is extending rapidly, and when its limits cannot be discovered with certainty, then amputation must not be performed; when the system has already been debilitated from hectic and other causes then amputation cannot be performed. In senile gangrene amputation is not performed; should mortification threaten after a severe burn amputation must be performed at once.

2.—The shoulder may be dislocated in four directions (1.) downwards into the axilla, (2.) forwards below the clavicle, (3.) backwards on the dorsum of the scapula, and lastly, upwards, in this case the head of the humerus is dislocated only partially.

(a.) In dislocation downwards the natural rotundity of the shoulder joint is lost and a hollow is seen below the acromion, the head of the humerus can be felt in the axilla, the elbow is drawn away from the side and cannot be drawn to it, the limb is lengthened, and feels numb through the head of the bone passing on the plexus of nerves in the axilla, the motion of the joint is lost.

Treatment. There are five methods of reducing this dislocation, viz., *(a.)* With the heel in the axilla.

The patient is put on his back on a bed or sofa, the surgeon sits on the side of the bed towards the affected extremity, and puts his heel (with the boot off) into the axilla at the same time that he makes extension by taking hold of the patient's wrist, and pulling gradually not forcibly pushing up the head of the bone with his heel.

(b.) With the knee in the axilla. The patient being seated on a chair the surgeon stands behind him and puts one leg up on the chair, the foot resting on the chair and the knee in the axilla, the lower end of the limb, above the elbow is then laid hold of and pushed inwards whilst with the knee the head of the bone is pushed up into its place.

(c.) The arm is drawn upwards above the head. The patient lies down on his back, and the surgeon with one hand fixes the scapula, whilst with the other he gradually draws the limb upwards until the head of the bone returns with a snap into its natural place.

(d.) With Pulleys. The scapula is fixed to a neighbouring part by a broad band passing in front and behind the chest; a wetted roller is applied above the elbow and the strap of the pulley fixed here, then extension is made gradually in the direction of the axis of the bone, and after awhile the surgeon rotates the head of the bone upwards, when it will return with a snap.

(e.) With a Towel. This is applied in the same way as the pulleys, the scapula being fixed, a towel is applied to the arm above the elbow and extension made, as in the case of the pullies.

(2.) Dislocation forwards below the clavicle.

In this the natural roundness of the joint is also lost and there is a hollow under the acromion, the head of the humerus can be felt below the clavicle the elbow projects backwards and outwards, the limb is shortened, and the motion of the joint is lost.

Treatment. This dislocation is to be reduced by the application of the pulleys as above described, in dislocation of the head of humerus downwards extension is made in a direction backwards and outwards.

(3.) Dislocation backwards on the dorsum of the scapula. In this dislocation the limb is shortened, the natural mobility of the joint is lost, the elbow projects forwards and outwards from the side of the chest, the arm cannot be drawn to the side, an attempt to do so gives great pain, the natural rotundity of the shoulder is also lost, and the head of the humerus can be felt on the dorsum of the scapula, and a hollow exists beneath the acromion.

Treatment. This dislocation can also be reduced by the pulleys extension is made in a direction forwards and outwards.

Lastly the partial dislocation upwards is by some scarcely said to exist, and can be easily reduced.

3. The following are the symptoms of fracture of the neck of the scapula: the natural roundness of the shoulder joint is lost, a hollow is felt under the acromion process, the head of the humerus can be felt in the axilla, but can be easily replaced by pushing the humerus upwards and on taking away the force it falls back again into the axilla, there is unnatural mobility of the joint, and on reducing the fracture and rotating the humerus, and by applying the hand over the shoulder a crepitus may be felt.

The accident for which this fracture may be mistaken is dislocation of the humerus downwards into the axilla and the following are the means of distinguishing between them.

In dislocation downwards into the axilla there is immobility of the joint.

In fraeture of the neck of the scapula there is unnatural mobility.

2. In dislocation, the head of the bone cannot be reduced, unless by using great foree and on being reduced it remains in its natural situation.

In fracture of the neck of the seapula the head of the humerus ean be easily reduced to its place, but on removing the force it falls again into the axilla.

3. In disloeation, no crepitus can be felt on reducing the disloeation and rotating the arm.

In fraeture of the neck of the scapula, on reduetion by rotating crepitus can be felt.

These are the chief diagnostie signs between these two accidents, one of whieh may be mistaken for the other.

4. In a penetrating wound of the abdominal cavity the symptoms whieh lead us to infer that the stomaeh was penetrated are in the first plaee the direetion of the wound, next escape of the eontents of the stomach through the wound, vomiting of the contents mixed with blood, great irritability of the stomaeh, and ineessant thirst: if extravasation of the contents has taken plaee the following symptoms will appear, tenderness of the whole abdomen will soon come on so mueh so that the least pressure will eause extreme agony, the knees will be drawn up, the respiration will be performed by the thorax solely, the pulse will be small and wiry, great restlessness, attempts to vomit and ineessant thirst, the skin beeomes hot and dry, if no relief is obtained all these symptoms inerease, the pain beeomes severer, the pulse sinks, the skin beeomes eovered with a eold and ealmmy perspiration, restlessness increases, the features sharpen, the eyes sink, and death ensues.

When the spleen is penetrated or ruptured it is known by the direetion whieh the wound has taken and from the symptoms of extreme depression which soon set in, the pulse sinks rapidly the skin beeomes cold and covered with a clammy perspiration, the features sharpen and death results, from the extreme vaseularity of this organ, when it is wounded or ruptured, it always proves fatal.

When an intestine is penetrated or ruptured we know it by the escape of fœeal matter externally and eseape of blood with the stools, or if the intestine protrudes the wound can be seen, or when the intestine remains within the abdomen and should extravasation of its eontents take plaee, the symptoms of peritoneal inflammation will ensue, the abdomen will grow tender until at last the least pressure will eause the most intense pain, the pulse becomes small hard and wiry, the skin hot and dry, and great thirst, these symptoms inerease, the abdomen becomes distended and tympanitie partly from serous effusion, partly from flatus, the knees are drawn up to relax the abdominal museles, the respiration is performed solely by the thorax, the skin now beeomes cool and clammy, moist with perspiration, the pulse sinks and death results.

We come to the conelusion that the kidney is penetrated in a wound by the direction it has taken, and by the eseape of urine by the external opening, the frequent calls to pass urine, and eseape of blood with it, when passed.

5. The following symptoms indieate internal hæmorrhage in penetrating wounds of the thorax or abdomen, the pulse sinks rapidly, the skin becomes covered with a cold sweat, and very pale, the features sharpen

and assume an ashy pale hue, the eyes sink, and collapse sets in, all these symptoms rapidly increase and death by syncope is the result.

6. The following diseases or accidents call for this amputation.

When the soft parts have been destroyed or lacerated to a considerable extent in the upper part of the arm, where the large blood vessels and nerves are wounded or considerably, torn, or destroyed, where the arm is shot off close to the shoulder joint, or struck by a spent ball so as to convert the parts into a jelly ; or when mortification is setting in from a severe accident or injury.

The operation is performed in the following way on the right side. The patient being seated on a chair the surgeon stands before him (and an assistant behind, who is ready to pass in his fingers to grasp the brachial artery when the second flap is being made) with his left hand he holds up the patient's right arm at right angles with the body, he then passes in a long catlin a little below the acromion, gliding over the joint and bringing it out in the posterior fold of the axilla, thus transfixing it, he carries the knife outwards and with two or three sweeps a flap is made of the deltoid, which is immediately reflected by the assistant ; the surgeon next strikes the capsular ligament which is now exposed with the knife, at the same time throwing the patient's arm across his chest, by so doing the head of the humerus hops out of its socket ; the knife is now passed in close behind the head of the bone, dividing the posterior part of the capsular ligament, and laid with its flat surface against the neck of the bone, its edge looking downwards, the assistant follows the back of the knife expertly with his fingers and having secured the brachial artery the surgeon with a few sweeps carries the knife out making a flap of the muscles on the inner side of the arm.

JAMES GREENE.

MEDICINE.

Answer 1*st*.—Pleurisy may be described as acute and chronic ; but for the sake of convenience, instead of giving a detailed account of both these states separately, I shall describe the symptoms generally, noticing their modifications in each of these states.

Symptoms of pleurisy are *local* and *constitutional*. (*a*.) *Local symptoms*. (1.) *Pain* at the sides stands prominent among the local symptoms of pleurisy. In the acute and sthenic form it is sharp, catching, and in some cases almost excruciating. It increases at every act of respiration and becomes tormenting during coughing. In idopathic pleurisy it is generally seated at the sides of the chest, but in the tubercular state it may be in the upper part, both anteriorly and posteriorly, corresponding to the apex and upper lobe of the lung. The pain is very slight in asthenic forms of the disease, and is totally absent in the chronic state. I may here state that when the base of the lungs is affected and the pleura covering the diaphragm, the pain is referred sometimes to the epigastrium and sometimes to the lower ribs, corresponding to the attachments of the diaphragm.

(2.) *Dyspnœa* is present in most cases of this disease, but is not so severe especially in the acute state, as in pneumonia. The principal cause of difficulty of respiration in the acute state is pain in the sides

causing impeded and cautious movement of the thorax, but as the severity of the pain depends, in several cases, upon the extent of the pleural surface affected, consequently the amount of dyspnœa is also proportionate to this cause. The number of respirations increases from 24 in a minute, the normal standard, to 30, 40 and sometimes upwards. In the chronic form when extensive effusion has taken place in the cavity of the thorax this symptom is very prominent; the patient always complains of great shortness of breath, is sometime almost restless, at others suffers from orthopnœa, sand in a few instances dies asphyxiated. The cause of dyspnœa in the chronic form is compression and reduction of the respiratory surface of the lungs by the effusion in the pleural sac.

(3.) *Cough* is not an unusual accompaniment of this disease ; it is usually dry, short, of a hacking character, with very little or no expectoration, unless when some other disease of simultaneous occurrence or intercurrent is present. These observations apply both to the acute and chronic states, but in the latter it is more commonly present than in the former.

(4.) *Expectoration*, as a separate symptom, needs no further consideration as I have incidentally noticed it in connection with cough ; but let me only remark that pleurisy is complicated in many instances with bronchitis, phenmonia, and tubercles in the lungs, and in these cases the characters of expectoration vary, but slighty, from sputa peculiar to the above diseases.

(b.) Constitutional symptoms. (1.) *Fever* of an inflammatory type is generally present in well marked cases of acute pleurisy. It is ushered in with chills or rigors, and is followed by hot skin, another symptom of febrile action. In the chronic variety the fever is altogether absent, present only in a modified form, or assumes the hectic type ; the latter only in cases of empyema, chills followed by heat of skin, which passes off with profuse perspiration constitute the history of a complete paroxysm of hectic in the latter stage of some cases of pleurisy.

(2.) *State of pulse and blood.*—The pulse is quick, hard, full, generally regular in the acute stage of the disease. In the chronic it loses its hardness, fullness, but in many instances retains its quickness. In the acute variety it rises from 75 the natural standard to 100 or 120 ; the pulse-respiration ratio is not much disturbed in this disease. The state of the blood in the acute form when sthenic, is hyperinotic, determined by actual analysis, and indicated partly by the buffy coat in the blood drawn from pleuritic patients.

(3.) *Skin* is generally hot, dry and rough in the acute state, but in the chronic, its state may vary according as fever is present or not. In chronic and sometimes in acute ones, there is profuse perspiration.

(4.) *Urine* is generally scanty and high coloured in the inflammatory stage ; but its amount and other characters may vary the chronic state, particularly with reference to the treatment pursued.

(5.) *State of the alimentary canal* —Dryness and redness of tongue with some thirst, anorexia, (sometimes nausea and sickness) and constipation of bowels, constitute the symptoms referable to the digestive canal. In the chronic state, there is absence of thirst, unless there is much diuresis ; bowels in a variable state, but appetite improves. With reference to the physical signs of this disease it has been divided into the following stages, differing from each other in their pathological conditions. (1.) Dry stage. (2.) *Stage of plastic exudation.* (3.) *Stage of serous*

effusion, and two other stages indicating resolution of the disease and absorption of the fluid from the cavity with or without retraction. I think I shall be able only to allude briefly to the signs of the first three stages.

(1.) *Dry stage.*—Motions of expansion and elevation slightly diminished, especially if there is pleuretic pain ; no marked difference in the character of percussion note ; vocal fremitus not altered ; respiration weak, distant, divided in rhythm; very rarely there is friction sound.

(2.) *Stage of plastic exudation.*—Motions of the chest freer if the pleuritic pain is less ; some increase in the semicircular measurement ; vocal fremitus diminished ; percussion increased in resistence, diminished in duration, especial character changes gradually to complete dulness ; respiration weak but accompanied with friction sound of the rubbing, creaking or grating variety.

(3.) *Stage of Effusion.*—The effusion may be laminar, gravitative, or extensive producing distension and bulging: our limited time will not allow us to describe these separately so I shall describe the signs of effusion in a general manner. Expansion or bulging in the affected motions of expansion diminished, semicircular and antero posterior measurements increased ; vocal fremitus diminished or totally abolished, percussion resistent, completely dull, or wooden, respiration weak, distant or totally abolished in the lower part ; it is bronchial with increased vocal resonance especially in the upper part of the lung in gravitative effusion, ægophony, more or less distinct, heard generally at the line of junction between the dull and resonant part of the affected, it is present in laminar effusion and sometimes in gravitative effusion.

Morbid appearances.—The description of these will be very brief. The following are the morbid appearances of this disease.

1. *Redness* affecting the pulmonary, or the parietal, or both.
2. *Effusion of lymph* may be observed between the two layers.
3. *False Membrane* is not so common as adhesion ; but when it exists, it generally covers that part of lung which was affected ; occasionally when the pleurisy is extensive, there is a false membrane covering the lower lobe but adhesion in the upper.
4. *Adhesions* may take place, by the organization of effused lymph, between two layers of the pleura at any point of their free surface. In tubercular pleurisy adhesions are more common than false membrane.

(5.) *Effusion of Serum* may be either small, laminar or extensive; in the latter case the lung is compressed into a small size. Compression from effusion may reduce the consistence to that of leather. I may here remark that effusions may become in some cases confined by a membrane forming a kind of cyst.

(6.) *Effusion of pus* is not rare, but the white fluid in the cavity of chronic which always passes by the name, is in some cases nothing but changed liq. sanguinis.

(7.) *Morbid changes produced by empyema* are (1) ulceration of cartilages, (2) formation of external abscess, (3), ulceration of the lungs, (4) necrosis of ribs.

Treatment of pleurisy in the actate state is antiphlogistic, consisting of bleeding, leeching or applying blisters when the fever is reduced ; mercurials from beginning, combined with opium alone or opium and a little tartar emetic.. Diet low . Of the chronic variety support of the system together with elimenation of the fluid are indications, remedies

are cinchona, iodide of potassium, mineral acids, preparations of iron, quinine, wine and digitalis, squills, broom tops, &c.

2. *Symptoms of dysentery.* (1.) *Character of stools* in the very early part somewhat fœculent and watery but the number increased. Afterwards mucous, slimy and bloody; blood occuring in streaks, clots, or in some rare instances there is a large amount of bloody discharge. In a later stage the stools are watery, of brown colour, lymphy, and present the appearance of meat washing; odour now fœtid. (2.) *Fever* is occasionally present in a severe form of an inflammatory type; but generally it is slight. Very usually in this country, dysentery is complicated with endemic fevers of the country, namely, remittent and intermittent. (3.) *Skin* is generally dry and unperspiring; but sometimes when fever is present it is warm or hot, and covered with sweat. (4.) *Tenesmus and Tormina* are generally present, and are very severe when the affection is seated in the rectum, but sometimes in severe cases it is totally absent. (5.) *Heat* along the course of colon is occasionally present and indicates diffuse inflammation of the large bowels. (6.) *Pain* on pressure is more marked over sigmoid flexure and cœcum. There is also a sense of uneasiness amounting in some instances to actual pain in the hypogastrium. (7.) *Pulse* is accelerated in the sthenic varieties, with fever, but slow (occasionally irritable) in adyna mic form of the disease. (8.) *Thirst* is generally present except in the advanced stages. (9.) *Vomitting and nausea.*, when present are signs of evil portent; vomitting sometimes accompies the whole of the disease, at others only in the last stage. (10.) *Hiccup* is one of the dangerous symptoms, when it occurs in the advanced stage. (11.) *Urine* is generally scanty, and when the bladder is affected it is ammoniacal and passed with heat and pain. (12.) *Appetite* generally bad, occasionally there is perfect anorexia. *Morbid appearances.* (1.) *Redness* of the mucous lining of the large intestine in the early stage of the stage. Solitary glands of the large intestines enlarged and congested. (2.) *Ulceration* of various degree and extent, sometimes occurring only in small patches, at others extending over the whole surface the seat of the ulceration, it is said, is in the solitary glands (perhaps of Boehm). *Treatment* in the early stage is antiphlogistic and comprises blood letting (generally local) mercurials, opium, hyscyamus, &c., but in the advanced stage comprises astringents, tonics, and in some forms stimulants.

3. Treatment of apoplexy varies as the patient in a state of depression which is characteristic of some forms, or whether the countenance and the state of the pulse iudicate excitement. In the former variety, (coup de soleil is the best instance) is to be treated by affusion of cold to the head, injections, frictions over surface, and blisters to the nape. If the depression be very marked and progressing even stimulants or tonics. The other variety by general and local blood letting, cold to the head, administration of calomel, and croton oil; this is very difficult in the state of coma and generally croton oil mixed with butter is applied posterior part of the tongue. Cathartic enema with turpentine and purgative substances are of service.

Answer 4.—The propriety of blood-letting is to be judged of by (1) the tissue or organ affected, (2) character of the inflammation, (3) state of the patient with reference to his constitutional strength, (4) stage of the inflammation, (5) complications with other diseases. (1.) *Tissue*

or organ affected. It has been found by experience that toleration for blood-letting varies according to the tissue or organ inflamed: thus in phrenitis we can draw blood to an amount which would cause very serious mischief in inflammation of a mucous membrane, such as dysentery. (2.) *Character of the inflammation* should be particularly considered before we proceed to draw blood. In the sthenic form of acute inflammations, charaterized by a full and hard pulse, flushed countenance and presence of inflammatory fever, blood-letting should be resorted to, but in the asthenic acute and chronic inflammations, blood-letting, particularly general, is ill borne and is certainly injurious. (3.) *State of the patient* should materially guide the physician in resorting to this remedy. In the young, the plethoric, of sanguine temperament, of constitution not broken down by previous chronic diseases or by intemperate habits, the high fed, and the better lived, blood-letting in inflammations is certainly indicated; while on the contrary in the old, or leucophlegmatic temperament, the debilitated anæmic or cachectic, the ill fed, and the ill clothed, blood-letting is ill borne and proves dangerous in a small amount. (4.) *Stage of the inflammation* would demand our consideration before we proceed to bleed. Blood-letting, especially general, is borne only in the early or inflammatory stage, and therefore very disagreeable results may accrue if this means be had recourse to after suppuration has set in. (5.) *Complications with other diseases.* Inflammations sometimes occur in the course of organic or functional diseases, and blood-letting in some of these complications proves dangerous. Thus pneumonia or pleurisy may occur in the course of pulmonary phthisis, and blood-letting, except to a small amount by local means, is contra-indicated.

To determine the amount of blood-letting, besides the circumstances detailed above, the toleration for blood-letting in the different inflammations is to be particularly considered. Dr. Marshall Hall by extensive observations has now established the fact, that there is greater toleration for blood-letting in inflammatory diseases than in health or other diseases both structural and functional, and that in some inflammations the patient bears a greater loss of blood with impunity than in others. He has drawn out a table containing the amount of toleration for blood-letting in different diseases; in this, congestion and inflammation of the brain holds the first place, and dysentery (perhaps) the last, among inflammatory diseases. By amount of toleration is meant the quantity, which being drawn, brings the patient nearly to a state of fainting. In practice bleeding should be stopped as soon as the pulse becomes low, and the patient complains of great weakness: in some cases it is pushed on to actual fainting.

5. *Symptoms of Delirium Tremens.* Sleeplessness is one of the, or perhaps *the*, most important of the symptoms of this disease. It occurs very early and in many cases is the first harbinger of approaching *horrors.* It continues during the whole course of the disease bringing on exhaustion, and its subsidence is the sure sign of approaching health. *Tremor and restlessness* in some cases precede, in others follow, the last symptom. There is first some trembling of the hands chiefly observed when the patient attempts to raise something; this trembling, as the disease is well developed affects generally the whole body: the patient becomes restless and all the movements of the body want that co-ordination which indicates healthy state of the nervous system. But the restlessness is more

connected with his delirium or rather delusion than with his tremors; he cannot rest in one place, is always busy in doing something, and if put under restraint his energies are principally directed to get over it. *Delirium* of this disease is peculiar; it is a pleasant and "busy" delirium; in which the patient becomes officious to others, and seldom contemplates violence to any body. He is not altogether beyond the pale of reason and sense; he would answer some questions very rationally, but immediately he would interpolate nonsense in his replies. But the greatest peculiarity of this delirium is its connection with certain hallucinations. The patient is always troubled with the thought that some filthy animal creeps over his body, or some fiend threatens him, or some enemy is pursuing him, his old grievances become revived, he proceeds to lodge complaints against the person who is the source of such grievances, and often the physician is taken for the police magistrate. In this hospital, the patients of delirium tremens are generally sailors, and the physician has generally to hear complaints from such patients against their Captains or some drunken inmate of theirs.

Functions of the alimentary canal are generally more or less in a deranged condition in this desease: this has reference to the habits of the patient. There is total anorexia, chronic vomiting in some cases with pain in the region of the stomach and acid eructations indicate great derangement of the functions and structure of the stomach. The symptoms of dyspepsia and chronic gastritis are more marked in the early and formative stage of the disease than when it is well developed. Tongue is moist, pale, more or less coated and tremulous; thirst small or great; bowels generally costive, evacuations clayey or dark coloured, and fetid. *Pulse* soft, of moderate fulness or small, and generally quick. In the early stage, when there is some degree of febrile action, the pulse is a little fuller than in the developed stage.

Skin of body in the early stage retains some degree of its natural warmth, but in the advanced disease, it is clammy, bedewed with perspiration, of pale hue and indicative of a state of slugglish circulation.

Diagnosis. It is distinguished from Phrenitis by (1) *the presence of tremors,* (2) *character of the delirium*, which in phrenitis indicates greater violence of temper and has much of the character of delirium ferox, (3) *state of the tongue* which is moist and pale in delirium tremens, but dry and red in phrenitis, (4) *state of the skin*, which is cold, moist, clammy, and perspiring in delirium tremens, but hot and dry in phrenitis; but by far the best criterion is the (5) *character of the pulse* which is hard, full, and accelerated in phrenitis, and contrasts remarkably with the soft, small, and irritable pulse in delirium tremens.

The means of treatment suitable to the two diseases are exactly opposite. In delirium tremens the remedies most appropriate and most efficacious are preparations of opium generally with beer or brandy, or with tartar emetic; the opium and stimulant are repeated every half an hour or every hour until sleep is produced; purgatives to clear out the bowels and improve the intestinal secretions; cooling drinks and tonics to improve the functions of the stomach; and affusion of cold water to the head.

In phrenitis antiphlogistic measures are carried in their fullest extent. General and local blood-letting, exhibition of Mercury but without opium, purgatives, application of cold to the head, blisters to the nape in the advanced stage, and low diet are the means resorted to in treating phrenitis.

6. *Symptoms of hepatitis.* *Fever*, in the acute and sthenic forms is generally present; it is ushered in with chills in the very commencement of the disease, lasting during the whole course, only assuming a remittent type with nocturnal ex-acerbations in the inflammatory stage, but becoming "hectic," when suppuration occurs. In the chronic state fever is not present, and in the latent forms not only fever, but most of the other symptoms, to be presently described, are not obvious. *Pain* in the region of the liver is more or less present in the acute form. It is dull, deep seated, and perceived only on pressure when the seat of the inflammation is in the substance of the liver and its extent small; but when the inflammation reaches the peritoneal coat, or originally occurs in it the pain is acute, sharp, extending to the lower part of the thorax in case of the upper, and to the epigastric region in case of the lower surface being affected. Besides the local, sympathetic pains are sometimes felt in the right shoulder blade, over the clavicles and sometimes along the arms. In chronic inflammation pain is not so often as fever. *Enlargement* of the liver is one of the constant symptoms. Its bulk may increase towards the convex surface, pushing the diaphragm upwards, but without bulging beneath the margin of the ribs; or the liver may project beneath the ribs into the abdomen, and forming a kind of tumour externally. Hepatic enlargement may be diagnosticated by means of percussion, a semicular measurement of the affected side, and by the hepatic *compression rhonchus,* produced by the encroachment of the liver, along with the diaphragm, into the cavity of the chest. This ronchus is distinguished by its special character, occurring only at the end of inspiration and commencement of expiration by the large size of the crackles, and by being not superficial.

Dyspnœa is present when the convex surface is affected and the diaphragm is pushed into the chest. It is of a mechanical origin and arises from the impediment offered to the descent of the diaphragm by the enlarged liver.

Cough is not always present but occurs when the peritoneal coat of the convex surface as well as of the diaphragm is affected: it is without expectoration, unless complicated with bronchitis.

Tension of the right rectus muscle is occasionally present, but is not an invariable sign.

Vomitting occurs when the concave surface especially of the left lobe is acutely inflamed. *Character of stools* some times liquid often of a dark color, fœtid, indications sometimes excessive at others defective presence, but more constantly, a vitiated state of the secretion of liver. When complicated with dysentery, the stools are dysenteric.

Jaundice is rather a rare symptom of hepatitis, especially in India. It occurs only when the inflammation extends to the gall bladder and ducts, producing occlusion of the latter, and consequent retention of bile.

Terminations of hepatitis. I have time enough only to allow me to name the terminations. (1.) Resolution. (2.) Suppuration. (3.) Chronic hepatitis. (4.) Softening. (5.) and rarely Gangrene.

NILMADHUB MOOKERJEE.

Appendix E.

Anatomy and Physiology.

Gold Medal and First Certificate.

Mohesh Chunder Ghose.

CERTIFICATES OF HONOR.

1st, Sitanath Ghose. | 2nd, Roma Churn Bose.

Descriptive Anatomy.

Honors withheld—no answers being deemed worthy of them.

Goodeve Medal,

JUGGOBUNDO BOSE.

Chemistry.

Gold Medal and First Certificate of Honor.

R. W. HARRISON.

CERTIFICATES OF HONOR.

2nd, Mohesh Chunder Ghose.
3rd, Meer Ushruff Ali.
4th, W. Barry.
5th, Kanylall Dey.
6th, E. Pearsall.
7th, Mokund Lall.

Botany.

Gold Medal and First Certificate of Honor.

MOHESH CHUNDER GHOSE.

CERTIFICATES OF HONOR.

2nd, Alfred Eteson.
3rd, Simon Peter Suringhy.
4th, Juggobundo Bose.
5th, Sitanath Ghose.

Materia Medica.

Gold Medal and First Certificate of Honor.

R. W. HARRISON.

CERTIFICATES OF HONOR.

2nd, W. E. Pearsall, Mohesh Chunder Ghose, James Greene, } Equal.
3rd, W. Barry.
4th, Dumree Tewaree.

Practice of Physic.

Gold Medal and First Certificate of Honor.

NILMADHUB MOOKERJEE.

CERTIFICATES OF HONOR.

Doorgados Kur.
C. L. Fox.
F. H. A. Leach.

Clinical Prize.

NILMADHUB MOOKERJEE.

Surgery.

Gold Medal and First Certificate of Honor.

JAMES GREENE.

CERTIFICATES OF HONOR.

2nd, Dhurmodoss Mookerjee. | 3rd, J. A. Foy.

4th, Nilmadhub Sen.

Dresser's Prize.

GEO. DALY.

Midwifery.

Gold Medal and First Certificate of Honor.

NILMADHUB MOOKERJEE.

CERTIFICATES OF HONOR.

2nd, Mrittonjoy Bose. | 3rd, Chundernath Biswas.

4th, Nilmadhub Sen. }
Juggernath Sen. } Equal.
James A. Foy. }

Goodeve Scholarship.

MRITTONJOY BOSE.

Medical Jurisprudence.

Gold Medal and First Certificate,

J. A. FOY.

CERTIFICATES OF HONOR.

2nd, Mrittonjoy Bose. }
Nilmadhub Mookerjee. } Equal.

3rd, Radhapersaud Set. }
Unnodopersad Nag. } Equal.

4th, Nilmadhub Sen.

MILITARY CLASS.

Gold Medal for General Proficiency,

SHAIKH HYATH BUKSH.

Silver Medal for General Proficiency,

MEER AHMUD ALI.

Silver Medal for Anatomy,

SHAIKH ALI MAHOMED.

Prizes of Books.

Jumal Khan. | Shaikh Meajan.

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